NATIONAL INVASIVE SPECIES COUNCIL

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INVASIVE SPECIES ADVISORY COMMITTEE

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MEETING

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TUESDAY,
MAY 1, 2007

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SUMMARY

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The Committee met in the Grand Ballroom of the Doubletree Grand Hotel, 1717 North Bayshore Drive, Miami, FL; Dr. K. George Beck, Acting Chair, presiding.

COMMITTEE MEMBERS PRESENT:

PETER ALPERT	University of Massachusetts
GEORGE BECK	Colorado State University
GARY M. BEIL	Minnesota Crop Improvement Association
SHIPPEN BRIGHT	Maine Lakes Conservatory Institute
PATRICIA BRIGHT	Wildlife Center of Virginia
DAVID BRUNNER	National Fish and Wildlife Foundation
TIMOTHY J. CARLSON	Tamarisk Coalition
EARL CHILTON, II	Texas Parks and Wildlife Department
JANET CLARK	Center for Invasive Plant Management
DIANE COOPER	Taylor Shellfish Farms
JOSEPH CORN	University of Georgia
LUCIUS G. ELDREDGE	Bishop Museum
MILES FALCK	Great Lakes Indian Fish and Wildlife Commission
CHRISTOPHER FISHER	Colville Confederated Tribes
AMY FRANKMANN	Michigan Nursery and Landscape Association
E. ANN GIBBS	Maine Department of Agriculture
CATHERINE HAZLEWOOD	The Nature Conservancy
JEROME A. JACKSON	Florida Gulf Coast University
MARILYN B. LELAND	Prince William Sound Regional Citizens Advisory Council

ROBERT McMAHON	University of Texas at Arlington
CHARLES R. O'NEILL	New York Sea Grant Program
JAMIE REASER	Pet Industry Join Advisory Council
JEFFREY D. SCHARDT	Florida Department of Environmental Protection
CELIA SMITH	University of Hawaii
JEFFREY STONE	Oregon State University
JOHN PETER THOMPSON	The Behnke Nurseries Company
JENNIFER VOLLMER	BASF Corporation
KEN ZIMMERMAN	Lone Tree Cattle Company

COMMITTEE MEMBERS ABSENT:

JOHN KENNEDY	Wyoming Game and Fish Department

NISC STAFF PRESENT:

KELSEY BRANTLEY	ISAC Coordinator / Program Analyst
GORDON BROWN	DOI Policy Liaison
PAUL HOFFMAN	Deputy Assistant Secretary
RICHARD ORR	Assistant Director (International)
DEAN WILKINSON	DOC Policy Liaison
LORI WILLIAMS	Executive Director

NISC STAFF ABSENT:

PHILLIP ANDREOZZI	NISC Pacific Regional Coordinator
HILDA DIAZ-SOLTERO	USDA Policy Liaison
MARY JOSIAH	Office Manager

WELCOME / MEMBER INTRODUCTIONS

George Beck, ISAC Chair

Dr. Beck called the meeting to order at 8:00 a.m., and the Committee members introduced themselves. **Mr. Zimmerman requested that a template or form be created to facilitate member agencies' requests for advice from ISC. It should then be sent out to the departments or agencies requesting advice on specific issues (see page 26, Item #1.)**

OVERVIEW OF MEETING AGENDA

Mr. Schardt said that one of the major focuses of the meeting will be intergovernmental cooperation. Mr. Schardt will give a presentation on Florida's 100 year-old Aquatic Plant Management Program, while Mr. Jubinsky will give a presentation on how this program was used 10 years ago as a template for forming an Upland Invasive Plant Management Program. Bill Haller, from the University of Florida, will give a presentation on the centralized approach towards an invasive plant library. Over lunch, several discussions will take place regarding the volume of material that is imported through the Miami airport.

On Tuesday, members will take a field trip to the Miami seaport. The purpose of the presentation and the related trip will be to stress the importance of early detection/rapid response. During the bus ride, François Laroche, of the South Florida Water Management District, and Tony Pernas, of the National Park Service, will talk about the Upland Invasive Plant Management Program. On the way to the Sawgrass Recreation Park, they will see how Melaleuca is being controlled. They will also take helicopter and airboat tours of the Everglades to witness the extent to which the area is affected by invasive species, as well as the amount of control that is taking place in these areas.

On Thursday, Jerry Jackson will provide further information on invasive animals in South Florida. Afterwards, Scott Hardin, with the Florida Department of Fish & Wildlife Conservation Commission, will talk about some of the successes and challenges faced by their Invasive Animal Management Program, including the Gambian pouched rat situation. Mr. Schardt will then give a presentation on a national initiative for invasive aquatic plant research. Brian Nelson, the Aquatic Plant Director for the Southwest Florida Water Management District, will talk about the Invasive Species Working Group, a state effort to consolidate invasive plant and animal management programs. Afterwards, Don Schmitz will talk about the need for a national center on biological invasions.

At the end of the meeting, two recommendations will be presented for ISAC's consideration: 1) a recommendation from ISAC to NISC to support the Corps of Engineers Aquatic Plant Research Program; and 2) a recommendation from ISAC to NISC to explore some of the models for centralized invasive species management.

APPROVAL OF MINUTES

Dr. Beck called for a motion to approve the minutes of the last ISAC meeting. Ms. Williams made the motion, and Mr. Thompson seconded. Mr. Zimmerman made a correction to the minutes, and the motion passed unanimously.

NISC STAFF REPORTS

Lori Williams, Executive Director

Ms. Williams began by thanking Jeff Schardt and the Florida Department of the Environment for his help in making the meeting possible, and by welcoming the new members.

In September of 2006, the ISAC charter was simplified and streamlined. Because of this, it is now very important to the update operating guidelines so as to include details that are no longer included in the charter, such as information regarding officers and subcommittees. Ms. Brantley and Ms. Williams have put together a draft of the operating guidelines for the consideration of the Committee members. Unlike the charter, which lasts for two years, the guidelines can be changed at any point. Ms. Williams said that she expects some decision to be made on the draft guidelines by the end of the meeting.

With regard to the selection of officers, Ms. Williams said that she expects the Committee to make recommendations on officers by the end of the meeting. The Secretary of the Interior must appoint the officers in consultation with other NISC members. However, the recommendations of the Committee members are taken very seriously. The Committee must make a recommendation for a chairman, a vice chairman, and a secretary.

Ron Lukens left his job at the Gulf State Marine Fisheries Commission, and resigned as the Chair of ISAC. Thus, they are looking for a special opportunity to thank Mr. Lukens for all his hard work. George Beck is the current acting chair, and John Peter Thompson is the secretary. If anyone has an interest in being an officer or in being on a steering committee, they should talk to either Ms. Leland or Mr. Bright.

The staff is hoping that the revision of the National Invasive Species Management Plan will be approved by OMB for public comment late this summer.

The NISC policy liaisons proposed a list of 10 items to be considered by ISAC. The staff would like to hear by the end of the meeting which items, if any, ISAC is interested in.

All of the ISAC members should now be receiving a NISC weekly report. If anyone is not getting this report, they should let Ms. Brantley or Ms. Williams know. Also, Mr. Orr puts out a monthly report on international meetings. However, this is not sent out to everyone.

The staff has been working recently with the National Environmental Education Foundation (NEEF), a group that is interested in incorporating invasive species issues into their events. In particular, they were considering using invasive species as the theme of National Environmental Education Week. However, NISC was not able to provide them with enough curricula on invasive species for elementary and middle school students. If the Committee members know of any such curricula, they should communicate this to the staff. Another major NEEF event, National Public Lands Day, will have invasive species as its theme. A third opportunity with NEEF is Earth Gauge, a program that inserts environmental messages into weather reports. NEEF is interested in using invasive species as a topic for these messages. Ms. Williams concluded by saying that ISAC members will be receiving a letter regarding these opportunities. Mr. O'Neill added that they will be discussing the NEEF proposal at Thursday's subcommittee meeting.

Richard Orr, Assistant Director (International)

Mr. Orr reported that NISC is working with two groups to protect the North American region from invasive species threats: the Commission on Environmental Cooperation (CEC), and the North American Plant Protection Organization (NAPPO). The goals of the CEC is to assist in the development of a North American approach to preventing the introduction of invasive species that would harm North American ecosystems, while NAPPO will address current gaps in invasive species coverage.

Before the CEC can begin its work, they must develop a risk assessment process that is in line with the current international trade standards. Assessments are currently being conducted on Snakeheads and Sucker-mouth catfish. A meeting will be held next week between the CEC, the contractors, and the three people leading the delegations for Mexico, Canada, and the United States. Three separate populations of Snakeheads are already established in the United States. There are also established populations of Sucker-Mouth catfish in both Mexico and the Southeastern United States. According to the Mexican delegation, Sucker-mouth catfish are the cause of the collapse of a Mexican Tilapia fishery. However, it appears from the data that there may be other causes of the collapse. This will be further investigated in the course of the assessment. Another focus of the assessment will be the impact of Sucker-mouth catfish on Lake Okeechobee in Florida. They will also be doing an evaluation of the screening of freshwater fish moved in the aquarium trade for invasiveness. This means that the movement of any non-native fish that has not yet been evaluated for invasiveness must be postponed until such an evaluation has been conducted. Once an organism has been screened, its movement may not be restricted unless it can be demonstrated that the threat of invasiveness outweighs the benefits of importation of the organism.

Dr. Jackson asked how the Mexican delegation believed that the catfish had affected the Tilapia population. Mr. Orr replied that it was simply noted that a rise in the Sucker-mouth catfish population had coincided with a drop in the Tilapia population. Dr. Reaser added that the Mexican Tilapia fishery had already been in decline before the Sucker-mouth catfish were introduced. This raises the question of whether the Sucker-mouth catfish is opportunistic in collapsing ecosystems.

To help determine the extent of the effect of the Sucker-mouth catfish on the Tilapia fishery, Dr. Reaser asked that the delegation do some modeling to determine what would have happened to the fishery in the absence of the catfish population. Dr. Reaser then asked at what point industry and other stakeholders will be invited to participate in the development of the screening process. Mr. Orr replied that there will be as much open communication as possible throughout this process. Ms. Cooper asked how the international screening process would overlap with state screening. Mr. Orr replied that this is not an issue that would be addressed in an international agreement. Ms. Cooper asked if they would be looking at screening models for other plants and animals. Mr. Orr replied that they would.

Before beginning the process with NAPPO, NISC first determined the scope of the taxonomic and habitat coverage in the area of plant health in international law. A white paper was completed, and it was determined that complete coverage is in progress under the International Plant Protection Convention (IPPC) and NAPPO. Secondly, they needed to identify a focus for NAPPO over the next two years, and to develop two regional standards for North America: one for the screening of plants prior to entry into North America, and one for the ranking of alien species pathways. Regional panels have been created consisting of the partners currently involved in the NAPPO process. Ms. Hazlewood asked Mr. Orr if any coordination is taking place between CEC, NAPPO and the Convention on Biological Diversity (CBD) with regard to the development of regional processes. Mr. Orr replied that they are not currently getting any feedback from the CBD, although they are in contact with other regional arms of the IPPC.

NISC MEMBER DEPARTMENT REPORTS

Department Of Homeland Security: Bruce Lewke

Mr. Lewke reported that full implementation of the new wood packing material rules was enacted in July of 2006. Under the new rules, all wood packing material must be either heat treated or fumigated, and marked as such. Materials that are in violation of this standard are still entering the country, particularly from China and Southeast Asia. However, most countries are in compliance. DHS intensively searches two to three percent of all containers entering the country, which are targeted through the use of intelligence and history. This means that inspection assets are being used in an efficient and effective manner. When materials are found to be in violation of the standard, they are sent back to their country of origin.

Department Of Transportation: Arnold Konheim

Mr. Konheim said that he would be focusing his report on three areas in which the DOT has been doing work related to invasive species: ballast water, invasive plants, and preventing human exposure to the insecticides used to disinfect aircraft. The Maritime Administration is partnering with NOAA and the Fish & Wildlife Service in the Ballast Water Technology Demonstration Program, the purpose of which is to demonstrate that effective ballast water treatment technologies are practicable. The Maritime Administration has provided a fleet of ships to be used as models for testing these new technologies.

The Federal Highway Administration (FHA) is now requiring that the NEPA analysis on invasive plants be included as part of every environmental assessment. Also, the FHA has new eligibility to access federal funds for the prevention and control of noxious weeds. The FHA has provided roadside weed management information for inclusion in all state reference and resource books. For several years now, the FHA has been conducting a trilateral biennial conference with Canada and Mexico called Weeds Across Borders, and has been providing training to the state departments of transportation. Under the Small Business Innovative Research Grant Program, the FHA has also provided money to a Montana company that has developed a weed-free sod that can be used on hillsides. This should go a long way towards preventing invasive species in the sodding along highways. They have also given money to provide corridor vegetation inventories to other agencies.

For some countries, there are ecosystem or public health concerns regarding the entry of flying insects. The reaction to this concern is to spray aircrafts with insecticides, to which humans are then also exposed. In response to a concern over public health, the DOT has been exploring the use of other technologies, including fans and netting. The definition of disinsection has also been expanded from killing insects to killing or controlling insects. Finally, DOT has been coordinating with the other countries to plan demonstrations of the practicality of these alternate technologies.

Mr. Fisher asked if there is a concern that requiring NEPA analysis for invasive plant species may delay action. Mr. Konheim replied that, although the NEPA analyses may take a long time, they are required under the law. Mr. Thompson asked if the FHA advises the states on what plantings to select. Mr. Konheim replied that the FHA provides information to the states, which then make their own decisions. Mr. Fisher asked who within DOT deals with the rights of way along railroad tracks. Mr. Konheim replied that this responsibility would fall to the Federal Railroad Administration. Dr. Eldredge asked if the issue of ship bottom fouling is being considered along with the ballast studies. Mr. Konheim replied that he would look into this.

Ms. Leland asked about the availability of a status report on the standards for ballast water treatment being developed by the Coast Guard. Mr. Bright replied that the Coast Guard has set up a meeting to be held the following week in Charleston on the draft programmatic environmental impact statement for ballast water discharges. Ms. Williams suggested that a status report on ballast water treatment be put on the agenda for the next meeting.

Department Of Defense: Peter Egan

Mr. Egan reported that a number of meetings have been held in the past few months, including the Triennial Pest Management Workshop in Jacksonville, Florida, to which a number of speakers were invited from USGS and APHIS to discuss early detection/rapid response measures. Presentations were given on new technologies and the successes of various invasive plant treatments. At the end of the month, a session was held with the Federal Interagency Committee for the Management of Noxious and Exotic Weeds (FICMNEW) as part of the National Invasive Weed Awareness Week. In mid-March, DoD held a joint session with the North American

Wildlife and Natural Resource Conference, at which a number of topics were presented as part of an invasive species session. At the end of July, a Sustaining Military Readiness Conference will be held in Atlanta. At this conference, an invasive species session will be held for the upper level management on installations. This year, Congress stripped all earmark language from the continuing resolution for the brown tree snake problem. DOD is currently working to correct this funding problem. They are also updating the DOD pest management instruction, which instructs the pest management program on what they must do to protect the environment from a variety of insects, birds, and wildlife species that could cause damage to a military installation and negatively impact the mission.

Dr. Alpert asked if the natural resource officers on the bases are the primary land managers, and if so, whether they get specialized training in the early detection of introduced species. Mr. Egan replied that it depends on the base. Many installations do have a natural resource manager. The type of training involved likewise depends on the needs of particular bases.

DAY 1 PRESENTATIONS

Economic Analyses of Ecological Data on Biological Invasions
Otto Doering, Perdue University

Dr. Doering began his presentation by saying that economic tools, such as cost/benefit analyses, should be factored into decision making, but should not be the only basis upon which funding decisions are made. Also, a cost/benefit analyses cannot be reduced to a single number. Instead, it is a way of displaying tradeoffs and organizing information.

Secondly, Dr. Doering made the point that it is not the place of an economist to determine the relative social value of certain choices regarding the environment. In some instances, it is best for society to establish its own priorities, and leave the economists to find the most cost-effective ways of meeting society's goals. Solving a problem such as global climate change or invasive species must be considered as a risk mitigating strategy, or an insurance policy, rather than as an investment that will ultimately lead to a profit.

He then stressed the importance of examining the science behind every economic analysis. Economists would like to see more good biological and ecological indicators. It is also important to choose one's battles, and to focus on issues that are important to the public.

Dr. Doering concluded by stressing the value of economics and economic analyses in considering the cost effectiveness of various solutions to environmental problems. However, for economists to do their jobs, scientists must first provide them with preliminary valuations.

Mr. Wilkinson asked Dr. Doering how economists incorporate uncertainties into their analyses. Dr. Doering replied that the EPA is putting forth a big effort on risk assessment, and the valuation of ecosystem services. It is difficult to make judgments regarding risk assessment. However, it is something that must be done, both on the scientific side, as well as on the economic and cost analysis side.

Dr. Albert said that the most commonly reported economic figure for valuing invasive species is David Pimental's figure of $140 billion per year. Dr. Doering replied that whether or not this figure is accurate is practically irrelevant, since such a figure is meaningless to the public.

Mr. Bright asked Dr. Doering for his opinion on option valuation. Dr. Doering replied that option valuation can be very helpful, particularly as it allows one to look at alternatives and tradeoffs.

Mr. Orr asked if there is a role for economists in developing risk assessments on organisms about which very little scientific information is available. Mr. Doering replied that, when dealing with economic as well as biological uncertainty, it is best to seek guidance from someone who has dealt with a similar problem in the past.

Pending Farm Bill Legislation
David Walker, U.S. Fish and Wildlife Service

Through the Farm Bill, Congress has appropriated nearly four billion dollars over the past several years for the conservation of soil, water quality, and fish and wildlife habitat on private lands. Although this is only about five percent of the total amount of money that USDA spends on various aspects of the Farm Bill, it is still a significant resource. To emphasize this point, Mr. Walker listed some of the many fish and wildlife programs that are funded through the Farm Bill.

The conservation provisions under the Farm Bill came into being as a result of the Conservation Reserve Program, created in 1985. In 1990, the Wetlands Reserve Program was added, and in 1996, a number of new programs were added, including the Environmental Quality Incentive Program (EQIP), the Wildlife Habitat Incentives Program (WHIP), and the Farm and Ranchland Protection Program (FRPP). In 2002, the Grassland Reserve Program and the Conservation Security Program were added to the Farm Bill.

There are ten titles in the Farm Bill. In 2002, the major focuses from the fish and wildlife perspective were the conservation title and the forestry title. In the 2007 Farm Bill, the energy and disaster titles will also be very important. The conservation programs in the Farm Bill are all voluntary and competitive. The purpose of most of these programs is to target lands providing the most environmental benefit through the use of various ranking criteria. Voluntary programs emphasize partnerships with private landowners, as well as with other NGOs and funding sources.

Mr. Walker then outlined the six major conservation programs in the Farm Bill. The largest and the oldest of these programs is the Conservation Reserve Program, which pays an annual rental fee to landowners to plant a cover crop, usually grass or trees, on their lands. Competitors in this program are ranked based on an environmental benefits index. The purpose of the Wetlands Reserve Program is to maximize wildlife benefits and wetland functions and values. There are three types of agreements in this program: cost share for restoration, 30-year easement, and perpetual easement, with the vast majority of the program falling under perpetual easement. The Environmental Quality Incentive Program addresses a wide range of conservation practices, and

offers incentives for land management practices that promote invasive species management and integrated pest management. One of the priorities of this program is the conservation of habitat for species at risk. The purpose of the Wildlife Habitat Incentive Program is to improve fish and wildlife habitat. Any landowner may apply for this program. The Grasslands Reserve Program focuses on protecting grasslands while allowing for continued livestock grazing. Finally, the Conservation Security Program was designed to reward good stewards that are already doing good conservation on their lands.

Farm Bill funding comes in two forms: financial assistance and technical assistance. Technical assistance may be acquired either through the National Resources Conservation Service, or through certified technical service providers.

The conservation programs in the Farm Bill offer a variety of opportunities for addressing invasive species, beginning with the allocation of funds to the states. When the money comes down to the state level, the state conservationists, with the advice of the State Technical Committee, identify practices and cost share rates for each program. There are also some priorities at the national level that include invasive species.

With regard to the 2007 Farm Bill, the majority of the programs that Mr. Walker mentioned will expire in September. This has generated a great deal of activity surrounding the reauthorization of the Farm Bill. The USDA released its Farm Bill proposal at the end of January, and is now engaged in the legislative process. They expect to see markups from the House and Senate Agriculture Committees within the next month.

A substantial increase in funding for the conservation title has been proposed, as well as significant consolidation of the programs. With regard to conservation compliance, a new provision in the Farm Bill, called the sod-saver provision, creates a disincentive to converting grassland to crop-land. In the Conservation Reserve Program, the current cap of 39.2 million acres will be preserved. There is also a proposal for a Biomass Reserve Program, which would give priority to people offering land into the Conservation Reserve Program who propose to use this land for the production of biomass. An addition to the current cap is proposed for the Wetland Reserve Program, at a rate of increase of 250,000 acres per year for the next five years. This is in line with the President's wetland goal of 3 million acres restored, enhanced, and protected. It has been proposed that the Wildlife Habitat Incentives Program, the Forest Land Enhancement Program, and the Agricultural Management Assistance Program be combined into one program. Additional money has been set aside for the Conservation Security Program. The Private Lands Protection Program will be receiving an additional billion dollars over a 10-year score.

The primary issues regarding reauthorization of the Farm Bill are budget constraints, issues regarding the World Trade Organization, the Energy Initiative, program performance, program consolidation, and conservation on lands in production. Although the conservation program is likely to be renewed, it is uncertain what level of funding will be available for it.

Congressman Peterson has been talking about a biofuels program, although there is a concern over

whether this will have an energy purpose or a biomass purpose within the current Conservation Reserve Program (CRP). Representative Kind has introduced a version of the Farm Bill with significant increases in conservation, although he does not indicate where this money will come from.

Congress continues to ask what they are getting in return for the money spent on these programs. In response to the need to quantify the benefits of these programs, USDA and NRCS are conducting a conservation effects assessment project.

Mr. Brunner commented that implementation of various sections of the Farm Bill may lead to policy that runs at cross-purposes. For example, some of the species being proposed for cultivation as renewable energy sources are also invasive. With good coordination, however, these conflicts can be resolved. Mr. Walker pointed out several obstacles to using CRP lands to produce biomass crops, and indicated that such use of CRP lands falls outside the scope of the current programs. Mr. Bright recommended putting $25 million towards funding state invasive species coordinators, which would provide an incentive for states to create their own invasive species councils, and asked if the Farm Bill would be an appropriate place to include this funding. He also asked if there are provisions in the Farm Bill to allow insurance companies to contribute tax deductible dollars to buy wetlands, since wetlands can provide protection against flooding. Mr. Walker replied that he is not aware of any such provisions being included in the Farm Bill. However, the Farm Bill does include other incentives.

Dr. Jackson asked if the current CRP is subsidizing the planting of Arundo donax at the edge of the Everglades, and if the new Biofuels CRP is likely to fund such a program. Mr. Walker replied that this depends on how the legislation is written, and on how the policy and rules are implemented. Based on the environmental benefits index, the CRP currently discourages, but does not entirely preclude, the planting of non-native species. Dr. Beil inquired as to the likelihood of the sequestered carbon program surviving the budget process. He also asked if this program is being championed anywhere else besides the Farm Bill. Mr. Walker said that, through its five-year strategic plan, NRCS has identified the promotion of market-based systems for addressing conservation as one of its priorities. This is also reflected in the Administration's proposal to use a market-based approach to value ecosystem services. Dr. Reaser asked what funding is being put towards outreach efforts for these initiatives, so that farmers will know how to implement them. She also said that a number of these provisions require one to violate environmental first principles in order to qualify for funding, and suggested that ISAC look at some of these issues in greater detail, and give further advice on them in the future. Mr. Walker agreed that significant problems exist, and said that coordination between agencies and between the other people working on these conservation programs on the ground varies tremendously across the country.

Ms. Clark said that, this winter, the Center for Invasive Plant Management was asked by Congressional staff to provide recommendations regarding invasive species in the conservation title. In response, they held a workshop of scientists, and from their discussions drew some policy conclusions that she was able to bring to Washington several weeks ago, one of which deals with the biofuels issue. She also mentioned that there is a great opportunity for people to have

influence as a part of state technical advisory committees. Ms. Frankmann asked how species at risk lists and invasive plant lists are generated. Mr. Walker replied that species at risk are considered threatened and endangered species, while candidate species are considered species in decline. Mr. Falck asked if working with the state priorities is a good avenue for addressing the biofuels, rather than working at the national level. Mr. Walker replied that the best way to approach this issue is to look at national practice standards first, then to come down to the level of state standards. Mr. Thompson asked if the results of research conducted in the European Union on the bioproduction of particular species can be transferred to the United States. Mr. Walker replied that this depends on whether or not the ranking system being used is consistent with the purposes of the program.

Ms. Hazlewood recommended that NISC coordinate a document that articulates the implications of the legislative language in the Farm Bil for invasive species, and perhaps also recommends mitigating measures to address these consequences at the national or state level.

Mr. Walker agreed that this might be helpful. Mr. Carlson asked if, under the new Farm Bill, the CRP will remain under the administration of the Farm Service Agency (FSA). Mr. Walker replied that the FSA will continue to administer the CRP.

Florida Invasive Species Efforts (Joint Presentation)

Interagency Aquatic Program
Jeff Schardt, Florida Dept. of Environmental Protection

Jeff Schardt, administrator of the Aquatic Plant Management Program for the Florida Department of Environmental Protection, began by saying that almost every public water body in Florida contains at least one invasive aquatic plant species. In any one year, Florida has 350 active management programs on aquatic invasive plants, and controls 65,000 acres of plants each year with a budget of about $30 million. The Aquatic Plant Management Program began in the 1800s for navigation and commerce. Now one of the most important purposes of invasive plant management in Florida is flood control.

In the 1960s, about 200 separate government entities were working to control aquatic plants in Florida's waters. In 1970, the Department of Environmental Protection was authorized to coordinate all of these activities. Through this consolidation of efforts, administration was reduced. Florida's management philosophy, called maintenance control, was created in 1974. This plan requires the eradication of all new populations of invasive species, and the aggressive control of populations that are already established.

Under prevention, the Florida Department of Agriculture conducts inspections on aquatic plant nurseries, and shares the responsibility of inspecting ports of entry with USDA and the Department of Homeland Security. It is also very important for them to conduct an annual assessment of these public lakes and rivers, not only for the purposes of early detection/rapid

response, but also for the purpose of developing their management priorities for the year. In terms of regulation and compliance, they have 18 biologists in seven offices who do extension works and permits, and conduct inventories. They also contract with 16 federal, state and local governments, 10 private companies, and eight universities and research entities.

The program's first management priority is floating plants, while their second priority is hydrilla. They also have an eradication program for giant salvinia, water spinach, water clover, and cat claw mimosa, wherever these are found in the state of Florida. Florida has many different management options for the control of aquatic plants. Mr. Schardt used the uprooting of hydrilla as a result of Hurricane Charlie as an example of an environmental control, and the reduction of water hyacinth in the Suwanee River as an example of maintenance control.

Coordination among the various management agencies lead to a significant increase in funding from the legislature. For example, funding for the management of hydrilla has increased from about 2-3 million dollars a year to about 15-18 million dollars a year. As a result, hydrilla populations have been significantly reduced.

In terms of outreach, Florida produces many different types of literature on invasive species. This literature is distributed at training classes, and is used to instruct managers on invasive species issues. A website on invasive aquatic plants in Florida waters has been developed. In collaboration with the University of Florida, they are also training teachers in Florida on invasive species issues.

Upland/Wetland Invasive Plant Management Program
Greg Jubinsky, Florida Department of Environmental Protection

Greg Jubinsky, program manager for upland weed control for the state of Florida, reported that Florida has approximately 13 million acres of public conservation lands, and deals with about 125 species. Because there is a great deal of interest on the part of public land management agencies to control upland weeds, regional invasive plant working groups were developed. This program focuses on place-based management, giving a considerable amount of power to individual land managers. At last count, there were 540 participants in this program. Site managers are required to provide perpetual site management. They also work with 16 contractors throughout the state. Currently, the program funds only publicly-owned conservation lands, and targets species of high-invasiveness. The program currently works with 16 contractors throughout the state. Before a project is funded by the regional working groups, a pre-quote contractor meeting is held. The contracting crews are carefully overseen by the site managers. Ninety days after completing work on a particular species in a particular area, the contractor must be able to achieve 95 percent control of the species.

Mr. Jubinsky then gave several examples of control strategies, including the use of the Brontosaurus machine to control Melaleuca. A collaborative effort with the USDA is currently underway to control Melaleuca at Estero Bay. Between 1998 and 2007, over a quarter of a million acres in the Everglades were treated for Brazilian pepper. Another major problem in the

Everglades is Lygodium, which is a serious fire hazard. One of the problems in treating Lygodium is that its spores can be transported from one site to the next on the workers' clothing.

As a result, IFIS is now considering requiring the sterilization of clothing between sites. Three years ago, the Lygodium Strike Team was developed.

In terms of overall success, the program has already conducted over 1,000 projects in 620 public conservation areas, and has done 1.3 million acres of initial control. They have 900,000 acres currently under maintenance control, and have targeted 99 of the 125 species identified by the Florida EFSI. Eighty million dollars in Florida taxpayer funds have been spent, along with 30 million dollars that have been offered by counties or management districts and local governments. They have participation from all the public entities in Florida in the control of Melaleuca. In terms of public-private partnerships, the program does a great deal of work with the Fish & Wildlife Service through the Partners for Wildlife Program. They are also educating private landowners on the importance of removing Melaleuca from their properties, and are working with Don Schmitz on his Invasive Species Working Group. They have also taken advantage of the EQIP program discussed by Dave Walker in his earlier presentation.

Aquatic Information Retrieval Library Education and Outreach
Bill Haller, University of Florida

Bill Haller, with the Center for Aquatic Invasive Plants at the University of Florida, began his presentation by saying that the DEP was created in the 1970s in response to public concern over the methods by which water hyacinth were being handled in Florida waterways. USAID created the Aquatic Plant Information and Retrieval Service in 1974 because they realized that there was a lack of information available on aquatic plants. In 1978, the Center for Aquatic Plants was created by the legislature. Most of the people who worked for this center were borrowed from other departments. The Center for Aquatic Weeds, however, was formed on a wider faculty base. They worked on mechanical controls and utilization, developed strategies for the use of biocontrols and chemical controls, and researched the ecological effects of aquatic weeds.

With regard to outreach, the University of Florida has more courses on aquatic weed control and invasive plant management than any other land grant college in the nation. They have also formed partnerships with USDA-ARS and the Corps of Engineers. However, the Florida DEP has been the lead supporter of the University.

One of the University's major accomplishments was the development of a sterile grass carp. They have trained and certified herbicide applicators, and have done a great deal of research into the certification of new herbicides. Biocontrol work, such as the search for an insect to control hydrilla, continues unabated, and training programs are extensive.

The Aquatic Plant Information Retrieval Service puts out two international newsletters per year, and has 70,000 articles in a database which can be called up from a website. They are also doing Teach the Teachers to Teach and Teach the Park Rangers to Teach basic programs.

Outside of Florida, the University has done work in Cuba, Brazil, Venezuela, Mexico, Guatemala, France and Ecuador. They have also conducted statewide program reviews throughout the nation.

This year, the Board of Trustees of the University of Florida is considering increasing funding for invasive aquatic plants research. The Center is requesting four new faculty members, three new biologists, and three new communications people, and hopes that this request will be approved.

Mr. Haller concluded by saying that, over the past 37 years, the partnership between the action agency and the University has been extremely valuable. They are also now cooperating with the World Bank.

Inspection of Incoming Cargo from Abroad for Wildlife and Disease Agent Intervention
Richard Cambre, U.S. Dept. of Agriculture
Roland Marquis, U.S. Fish and Wildlife Service

Richard Cambre, USDA

Dr. Cambre, of USDA's Veterinary Services (VS), is the director of the Miami Animal Import Center, one of two major animal import centers run by USDA on the East Coast. The mission of the Center is to prevent the spread of animal diseases through animal quarantine. The authority for what they do comes from Tile IX, CFR Part 93. The Center deals mostly with domestic species, including poultry, horses, ruminants, swine and dogs. Their authority also extends to things related to animals, such as viruses, serums, toxins, analogous products, organisms and vectors, as well as animal byproducts, hay, straw, and foreign animal castings. Not all animals entering the country go into quarantine. For the most part, only birds and hooved stock animals go into quarantine. Once in quarantine, they remain there for varying lengths of time, depending on their country of origin.

Veterinary Services (VS) is divided into an eastern and a western region. The facilities on the West Coast are private facilities, while the facilities on the East Coast – while not necessarily owned by USDA – are staffed and operated by USDA employees. The largest of the eastern region import centers is the New York Animal Import Center, located in Newburg, New York. It is located on a property of approximately 100 acres, and has 18 separate barns. By contrast, the Miami Animal Import Center, consisting of a single 65,000 square foot building, is much smaller. When horses come to the Miami Import Center, their feet are bathed in sodium carbonate to kill any foot and mouth disease virus that might have been living in the manure. The horses are also sprayed with an insecticide to kill ticks. The horses are then tested for several diseases: Dourine, Piroplasmosis, equine infectious anemia, and screw worm. Birds in quarantine are checked for two diseases: avian influenza and exotic Newcastle disease.

Animals banned from importation into the United States include the brush-tailed opossum and three reptiles: the leopard tortoise, the African Spurred Tortoise, and the Bell's Hingeback Tortoise. Elephants, hippos and rhinos require a USDA import permit and an official health

certificate. They are also required to undergo an ectoparasite exam and treatment both prior to and upon entering the country. They are then placed in a quarantine situation at a zoo for approximately a year.

Recently, the Miami Import Center began dealing with eight species of carp and carp related species, all of which are susceptible to a viral disease called Spring Viremia of Carp. Veterinary Services is not responsible for inspecting every shipment of these animals that arrives. However, they must ensure that the animals have the proper import permits and health certificates. Veterinary Services will soon be required under the Code of Federal Regulations to look for another viral disease, called Viral Hemorrhagic Septicemia (VHS). At this point, VS will be required to inspect a total of 44 species of incoming fish.

In theory, the Miami Import Center is required to inspect dogs coming from countries that have screw worm. However, this is impractical, since they frequently do not know where the dogs are coming from. Thus, this is an issue that should be taken care of in the country of origin.

With regard to reptile importation, the federal regulations state that Ano person may import Leopard Tortoise, African Spurred Tortoise, or Bell's Hingeback Tortoise into the United States. The main purpose of keeping out these few species of reptiles is to safeguard against a disease called Heartwater, an infectious, non-contagious, tick-borne disease of domestic and wild ruminants. If Heartwater disease were to spread to the United States, the cattle industry could be devastated.

Dr. Cambre takes issue with the wording in the federal regulations since Bell's Hingeback Tortoise is only one subspecies of the species *Kinixys belliana*, the other subspecies of which may also have the potential to carry ticks infected with Heartwater disease.

Recently, the Miami Import Center was asked to pilot an experimental reptile tick inspection program. They hired two reptile tick inspectors, and went to the airport to look for ticks on incoming reptiles. Due to the large number of reptiles that come through the Miami Airport, they were unable to inspect every shipment. Dr. Cambre said that he was uncomfortable with the program, since they had no authority under the federal regulations to be conducting these inspections. Dr. Cambre then described the results of the project. Although a number of different types of ticks were found, none of these were ticks that are known to carry heartwater disease. Dr. Cambre said that reptiles should be treated for ticks before being shipped to the United States. There is also a need for standardized health certificates. The reptile industry appears to be uncomfortable with the inspection project, as well as with other importation related developments. No one currently knows what the risk is of Heartwater disease entering the United States.

Dr. Beck asked if the Miami Import Center sees very many fertilized bird eggs, and if so, if there is any need to quarantine these eggs. Dr. Cambre replied that none of the quarantine centers are set up to deal with fertilized eggs. Dr. Jackson asked if H5N1 could entry the country through a fertilized egg. Dr. Cambre replied that he is not sure whether or not the virus can be carried in an

embryo. The virus has been found on the outsides of shells, but can be eliminated through the use of a disinfectant.

Dr. Alpert suggested that ISAC advise NISC that a regulation that applies to a species without further qualification would also apply to its subspecies as well.

Dr. P. Bright asked if any cross-training on disease pathogens is taking place between Veterinary Services and Customs. Dr. Cambre replied that this type of training does take place, but that improvement could definitely be made in this area. Mr. Lusk asked why the reptile pet industry had objected to the proposed regulations. Dr. Cambre replied that they were simply uncomfortable with the prospect of any federal regulation. Dr. Reaser and Ms. Cooper commented that industry is not opposed to government regulations as long as the regulations make sense.

Roland Marquis, USFWS

Roland Marquis, a senior wildlife inspector for the U.S. Fish and Wildlife Service, began his presentation by giving an overview of the FWS mission: To conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. The mission of the Office of Law Enforcement is to investigate violations of U.S. wildlife laws, to monitor U.S. wildlife trade, and to work in partnership with international, Federal, State, and tribal enforcement counterparts. For the most part, the laws enforced by the Service regulate human activities in the interest of protecting and conserving wildlife, while the authority of other Federal entities would be invoked to control the introduction and transport of wildlife that represents an animal or human disease threat.

The Office of Law Enforcement has a presence throughout the United States, with special agents located in both rural and urban settings. Service wildlife inspectors are located at ports of entry at selected locations throughout the United States.

Of the many statutes that provide the FWS its authority, the two primary ones are the Endangered Species Act and the Lacey Act. These two acts provide the Service broad authority to detain and inspect any international shipment, mail parcel, vehicle, or passenger baggage and all accompanying documents, whether or not wildlife has been declared. These two statutes broadly define import to include landing on, or introduction to, any place subject to U.S. jurisdiction, whether or not such activity is considered an import under Customs laws. The Lacey Act makes it unlawful to import, export, transport, sell, receive, acquire, or purchase any fish or wildlife already taken, possessed, transported, or sold in violation of state, federal, Indian tribal, or foreign wildlife laws or regulations. The Endangered Species Act requires wildlife to be imported and exported through specific ports to facilitate both enforcement of wildlife laws and clearance of legitimate shipments.

The highest priorities for FWS law enforcement are wild populations of species protected under federal law, and injurious species. Of lesser priority are wild populations of species protected

under state or foreign law. The enforcement capabilities of FWS include 220 special agents, 122 wildlife inspectors, a 3-person intelligence unit, a forensics laboratory, a wildlife import/export database, and established communications channels with the wildlife import/export community.

FWS is committed to collaborating with both government agencies and non-governmental organizations. Mr. Marquis then gave a number of specific examples of collaborative efforts that have taken place between FWS and its enforcement partners in the past. Mr. Marquis also presented some statistics showing the breakdown of wildlife imports to the United States in 2006. In 2006, FWS confiscated a number of mitten crabs, as well as some *Clariidae* and *Boiga irregularis*. Most of the mitten crabs were taken from passengers, and were probably intended for personal use. Even though *Clariidae* have been on the list of injurious species for a long time, people still manage to get them by the Service by using different trade names, rather than the full scientific name.

Mr. Marquis said that the United States is the world's largest consumer of wildlife and wildlife products, which increases the risk of injurious species entering the country. Mr. Marquis then showed the general trade trends of where different types of animals are coming from.

In the future, FWS hopes to explore new technologies, and to collaborate more with other agencies, such as Customs and Border Protection, as well as other enforcement partners, including the trade industry.

Mr. Fisher asked what kinds of penalties FWS has the authority to impose upon violators. Mr. Marquis replied that this depends on whether or not the violators are knowingly breaking the law. If they know what they are doing, then this falls under the smuggling statutes, which can impose some very severe criminal penalties. If the case for smuggling is not strong enough, the corporations can still be fined. Mr. Lewke pointed out that collaboration among agencies can help in addressing violations, since the agencies have varying abilities to deal with different types of cases. The Automatic Commercial Environment system can also help with this, since it ties together several government agencies with import/export control.

Dr. Corn asked why the Fish and Wildlife Service does not inspect imported wildlife for diseases or parasites that might harm native wildlife, since this is not currently being addressed by any other agency. Mr. Marquis replied that some research is being conducted to address this gap. Ms. Gibbs asked if FWS has any official memorandums of understanding (MOUs) with the other agencies regarding the fact that they are inspecting some of the same shipments. Mr. Marquis replied that the FWS is simply following its mission, and does not require MOUs with the other agencies. Dr. Alpert asked how the proportion of shipments coming from China has changed over the last 10 years. Mr. Marquis replied that they have seen a slight, steady increase in China's ability to manufacture wildlife products, but that this is nothing that should trigger a large response.

Mr. Carlson asked what happens to companies that are consistently out of compliance. Mr. Marquis replied that, under their licensing requirement, FWS has the ability to amend, revoke,

restrict, or suspend licenses. Mr. Bright asked if anyone besides FWS inspects bush meat that is coming in for human consumption. Mr. Marquis replied that, if bush meat gets past FWS and enters the domestic markets, it is handled by the Smuggling Interdiction and Trade Compliance Group, since they have domestic search authority, while CBP does not. Dr. Chilton commented that some invasive polyketes are currently being imported as seafood, and asked if this is a gap that needs to be filled in the regulatory authority. Mr. Marquis replied that he does not know where FWS falls out on the issue of polyketes.

DISCUSSION - ISAC OPERATING GUIDELINES, OFFICER RECOMMENDATIONS AND SUBCOMMITTEE RESTRUCTURING

The Committee began by discussing the wording in the draft bylaws that states that only returning ISAC members may be eligible for the positions of chair, vice chair, and secretary.

Mr. Brunner moved that this language be stricken from the bylaws, and Ms. Leland seconded. Mr. Hoffman suggested that the language be amended to say, "returning members should be given greater consideration for the positions of chair, vice chair, and secretary." Mr. Brunner accepted Mr. Hoffman's rewording as a friendly amendment to his motion.

Ms. Leland asked for clarification on the definition of a returning member, since it is unclear whether a returning member is someone who was on the Committee the previous term, or someone who was on the Committee at any point in the past.

Mr. Hoffman suggested that the sentence in the draft bylaws that currently reads, "members are selected through consensus by all NISC departments and agencies, then appointed by the Secretary of the Interior," be changed to read "members are nominated for consideration and appointment by the Secretary of the Interior," since the Secretary has the sole authority to make appointments.

With regard to Mr. Hoffman's amendment to the motion, Dr. Stone asked for clarification on the meaning of "greater consideration" For the sake of facilitating discussion, **Mr. Brunner withdrew his motion. Mr. Thompson said that the withdrawn motion would be included in the minutes as an item for further consideration.**

Mr. Hoffman suggested that the Committee consider removing the language from the draft stating that detailed minutes must be provided for all ISAC meetings. Ms. Hazlewood asked if the first draft of the bylaws had been reviewed by the steering committee. Ms. Williams replied that it had not.

Dr. Reaser suggested that the Committee review the draft page by page, since she had found a number of inconsistencies both within the draft, as well as between the draft and the prior document, and was uncertain which of these inconsistencies were intentional, and which were unintentional.

Mr. Thompson moved that an ad hoc working group be formed to discuss the document later that evening in a more detailed manner, then report back to the full Committee. Mr. Bright seconded the motion.

Ms. Leland reminded the Committee members to let her know whether or not they are interested in being either an officer or a member of the steering committee. In spite of the current language in the draft bylaws, she encouraged new members who are interested in being officers to speak up, as well. Ms. Leland then asked Ms. Williams if the new bylaws will be legally binding. Ms. Williams replied that the bylaws will not be binding in the same way that the charter is binding, since the process for amending the bylaws is much simpler than the process for amending the charter.

The Committee then discussed subcommittee restructuring. Mr. Bright opened the discussion by saying that he does not know why ISAC has standing committees, and that he feels that they would be better off relying solely upon task teams formed to address particular issues. Mr. O'Neill argued that it is helpful to have subcommittees because issues come up periodically on the same general topics. Dr. Chilton suggested that they consolidate the standing committees while leaving open the possibility of created ad hoc committees when needed. Mr. O'Neill suggested that a working group be formed to work with NISC staff to determine which subcommittee functions are ongoing, and which should be handled by working groups. Ms. Williams said that the staff is currently discussing the reorganization of the subcommittees based on the proposed revisions to the management plan.

Mr. Zimmerman suggested that the motion to have an ad hoc committee work on the bylaws be amended so that this group will also be tasked with discussing the roles of the subcommittees in the current structure. Mr. Thompson accepted this amendment to his motion, and the motion carried.

DAY 1 PRESENTATIONS (cont.)

Update On Quagga Mussel Efforts On Lake Mead
Chuck O'Neill, New York Sea Grant

Mr. O'Neill reported that the Lake Mead National Recreation Area has been monitored for Dreissenid brugensis mussels since 2003. On January 6, 2007, live Dreissenids were found in Lake Mead, and by January 20, they were also being found downstream in Lakes Mohave and Havasu. This is a problem because Lake Mead is a major source of water and electricity in the western states.

In response to the initial discoveries, the National Park Service hosted a meeting of Federal, State, and local water resource agencies from California, Arizona, and Nevada, and formed the Lake Mead Interagency Core Team. On February 2, 2007, the National Park Service convened a science management team to discuss the development of science-based management

recommendations. The response plan developed as a result of this meeting is limited to Lakes Mead and Mohave. The major components of this plan include assessment of the extent of infestation, containment of the infestation through the management of boat movement and the washing of boats upon entry and exit, inspection of boats to determine whether or not they require cleaning, investigation of feasible treatment and eradication options, and identification of management measures.

The state of California has set up an interagency incident team headed by their Department of Fish and Game. California has also formed a science advisory panel, which has already come out with a draft plan and recommendations for eradication, containment, detection, monitoring, and research.

Dr. McMahon reported that the quagga mussels were first found in the Las Vegas boat harbor. At first, it was believed that the mussels were limited to very deep water, since this is where they were first found. However, the mussels have since been found throughout the Lake.

Samples of the mussels were taken from Callville Bay, the Lake Mead Marina, and the Las Vegas boat harbor in Lake Mead, as well as from Katherine Landing in Lake Mohave. Based on the sizes of these sample mussels, it was determined that they were mostly born in 2006, with a smaller 2005 cohort. Since the samples were all taken from shallow waters, this means that the mussels are able to survive at warmer temperatures than had previously been thought possible. The presence of a 2005 cohort also indicates that the mussels were introduced as early as 2003 or 2004. The only area where no 2005 cohort was found was Callville Bay. This means that the mussels are spreading downstream faster than they are spreading upstream. For every member of the 2005 cohort that was found, 129 members of the 2006 cohort were found. This suggests that the population is now in a massive growth phase. The major concern now is to find a way to keep the mussels out of Lake Powell, which so far remains un-infested.

Mr. Hoffman asked if the mussels could have been introduced into Lake Mead and Lake Mohave separately. Mr. O'Neill replied that this is a possibility. Mr. McMahon said that it is much more likely that the mussels entered Lake Mohave through downstream transport. Dr. Smith asked if these lakes have many endemic species. Dr. McMahon replied that Lake Mead does not have many endemic species since it is not a natural lake. Dr. Smith also asked about the possibility of conducting a full-scale eradication effort in the lakes. Mr. O'Neill replied that there is no precedent for attempting an eradication effort over such a large area.

Mr. Brunner asked what the probability is that the mussels will be transferred from the altered environment of the lakes into the unaltered flowing streams, which are home to four listed endangered species. He also asked what the probability would be of the mussels transferring, in larval stage, from the Colorado Basin into the Center Valley, where its impact on endangered species would be enormous. In response to the second question, Mr. O'Neill replied that there is a strong possibility of the mussels being transferred. However, with sufficient technology, effort and funding, they should be able to prevent this problem. In response to the first question, Dr. McMahon replied that, although the mussels are capable of settling in rapidly flowing waters, the

populations in these areas would not be as dense.

Mr. Brown said that the Fish and Wildlife Service has agreed to play a leadership role in the quagga mussel effort.

Dr. Alpert asked if the quagga mussel situation suggests any way to improve early detection/rapid response. Mr. O'Neill replied that the fact that the mussels were being monitored in Lake Mead as early as 2003 is a good sign, and said that, if anything, the situation points out the need for a good early detection program throughout the rest of the western states, since interdiction, education, and containment are going to become very important. Dr. McMahon also stressed the importance of preventing introduction of the mussels to other bodies of water through the inspection of vessels.

Island Conservation Efforts
Pat Patterson, Island Conservation

Mr. Patterson began by saying that the focuses of his presentation would be on the development of partnerships to focus conservation efforts on some significant islands that are currently managed by the U.S. Fish & Wildlife Service, and on the shift that is taking place from project-based to program-based conservation.

Islands are an important focus for conservation efforts since, although they cover only three percent of the earth's surface, they contain 15 to 20 percent of the earth's biodiversity. Twenty-two percent of all endangered animal species are found on islands, while 57 percent of all endangered plant species are found on islands. Data also shows that, globally, 55 to 67 percent of all animals extinctions are caused by invasive mammals. For this reason, Island Conservation's primary focus is the control of invasive mammals.

Mr. Patterson then told the story of Ken Staggers, who conducted one of the world's first island conservation efforts in 1958 when he killed a number of invasive pigs on Clipperton Atoll, an island in the Pacific Ocean off the coast of Mexico, and thus restored the island's diminishing populations of boobies and land crab to their natural vigor in the matter of a few decades. Island Conservation began to expand these efforts by looking at other islands off the coasts of Mexico and California. On the 66 islands, they found 388 endemic species and 39 species of seabirds. They also looked at the numbers of invasive species on these islands. They have now eradicated invasive species from over 30 of these islands, and have determined that invasive species can be eradicated from the rest of the islands within the next 10 years at a cost of about 10 million dollars. At this point, they realized that they had created a program, or a model that could be expanded, replicated, and applied to other locations.

In addition to the work that is already being done off of the coasts of Mexico and California, programs are also being established in the Pacific and in the Aleutians. Doing work in the Pacific is complicated, since this area is covered by so many different governmental jurisdictions.

However, the Pacific islands also have an enormous amount of biodiversity. The Caribbean is another target area.

As they begin to develop the concept of establishing programs, they have started talking with the Fish and Wildlife Service. Five or six weeks ago, a meeting was held which brought together a number of different agencies, including NISC, the Nature Conservancy, the Department of Defense, the Forest Service, and USDA. A list of priority islands has also been developed, including Palmyra and Desecheo, the Aleutians, Rat Island, Faulkner Island, and Destruction Island. In the time that has elapsed since the meeting, progress has been made towards taking care of the problems on Faulkner and Destruction, and two-thirds of the money needed to remove the rats from Palmyra has already been raised. By 2008, they hope to begin work on Desecheo.

Mr. Patterson concluded his presentation by requesting NISC's endorsement of Island Conservation's programs.

Mr. Brunner commented on the success of some of Island Conservation's programs. Mr. Lusk emphasized the need to choose targets carefully, since a single eradication failure can quickly turn public opinion against conservation efforts. Dr. Reaser said that she had recently co-authored a review of the effects of invasive species on island ecosystems, and recommended this paper as a resource for people who are interested in island conservation. Dr. Alpert asked what Island Conservation's overhead rate is. Mr. Patterson replied that it is 22 to 25 percent right now.

Mr. Bright said that although ISAC applauds the work being done by Island Conservation, it would not be proper for the Committee to endorse one group over another, since they are an advisory group to the National Invasive Species Council. Mr. Patterson clarified that he is not asking for ISAC's endorsement of Island Conservation as a group, but rather for ISAC's endorsement of the ideas set forth by Island Conservation, and the partnerships that these entail.

LEGISLATIVE UPDATE

Catherine Hazlewood, The Nature Conservancy

With regard to the Aquatic Invasive Species Bill, Ms. Hazlewood reported that Congress has the opportunity to pass either a ballast water bill, or a more comprehensive aquatic invasive species bill. Congress is currently under significant pressure from industry and conservation groups to pass a bill regulating ballast water. If a comprehensive bill is going to be passed, it will be up to the agencies to take a more active role in directing proposals to Congress to deal with some of the other potential pathways of aquatic invasives. The House Resources Committee will also need to be engaged in this process. Legislation authorizing the Tamarisk Bill was passed by the last Congress. The next step will be to consider funding.

One proposal for the structuring of effective funding for invasive plant and pest management is the Natural Resource Cooperative Authority Agreement Act, which would allow the Park Service to cooperate with adjacent landowners in addressing problems before they spread to Park Service

units. This legislation has passed the House, but is being held up in the Senate. This legislation may be passed more quickly by the Senate if it is separated from the larger pieces of legislation with which it was originally bundled.

Dr. Chilton asked if there have been any requests for full funding of the Army Corps of Engineers' Aquatic Plant Control Program. Ms. Hazlewood replied that, in previous Congresses, reauthorization of this program was not specifically included in the Aquatic Invasive Species Bill. However, the Nature Conservancy has been recommending to the House Transportation and Infrastructure Committee and the Senate EPW Committee that it be included. Mr. Wilkinson added that there is a matching program in the Corps of Engineers Water Resources Development Act with regard to the control of aquatic vegetation. However, this quit being a priority in terms of appropriations and administration requests about 10 years ago. Ms. Hazlewood said that the Corps would like the requirement of a local match to be put back into the legislation.

Ms. Leland asked, if the Environmental Protection Aagency litigation is sustained, if it would then be up to the states to administer ballast water programs. Ms. Hazlewood said that whether or not states with clean water act programs will be required to pick up vessel water discharges through these programs is an active question for the states. However, the potential exists for these operations to be handled through state Clean Water Act programs.

MEMBERS FORUM

Tim Carlson, Tamarisk Coalition, reported that the Salt Cedar and Controlled Demonstration Act passed the Senate and was signed by the President on October 6, 2007. There appears to be significant reluctance on the part of the Bureau of Reclamation to initiate the directives in the Act. However, the Coalition is trying to change this.

Janet Clark, Center for Invasive Plant Management, reported that the Weed Science Society of America will be launching a new journal, called Invasive Plant Science and Management, the first issue of which will be published in March.

Jennifer Vollmer, BASF Corporation, recommended that ISAC issue some guidance on fire mitigation as it relates to invasive species concerns.

Catherine Hazlewood, Nature Conservancy, reported that they had recently hired a director for the aquatic invasive species work being conducted under their Great Lakes Program, and welcomed advice from the Committee on ways that the Nature Conservancy can be helpful in responding to opportunities and policies.

Jamie Reaser, Pet Industry Joint Advisory Council, reported that the *Habitattitude*™ project continues to expand. They are currently developing a website focused on consumers, and recently formed a Pet Zoonosis Committee for the purpose of developing educational materials. They are also developing codes of conduct for backyard pond and water gardening, and have been working with the state of Florida, along with several other states, to develop regulations regarding large

constrictors and venomous reptiles. Finally, she said that the pet industry, the Fish and Wildlife Service, USDA and other partners are working to organize an international symposium on Chytrid fungus for November 13 through 15, 2007 in Tempe, Arizona.

Peter Alpert, University of Massachusetts, reported that a friend of his is interested in creating a television program on early detection/rapid response strike teams, and is seeking $250,000 in funding.

Earl Chilton, Texas Parks and Wildlife Department, reported that Texas is in the process of forming an Invasive Species Coordinating Committee. Their comprehensive management plan for aquatic nuisance species is close to being finished. They are also in the process of creating a management plan for the bottom 500 miles of the Rio Grande. Dr. Chilton is lobbying for money for the Corps project, as well as for aquatic plant control.

Jerry Jackson, Florida Gulf Coast University, recently finished teaching an undergraduate course on invasive species. The University is continuing its work with black spiny-tailed iguanas on Gasparillo, and is also doing some work in southwest Florida on the impact of exotic catfishes on fish-eating wading birds.

Jeff Schardt, Florida Dept. of Environmental Protection, made an announcement regarding the following day's field trip.

Ann Gibbs, Maine Department of Agriculture, said that firewood appears to be one of the major pathways for the spread of eEmerald ash borer. However, the states have very little regulatory authority over firewood. As a result, a great deal of effort is currently being put into finding ways to regulate firewood.

Patricia Bright, Wildlife Center of Virginia, said that the fact that no agency has regulatory authority to look for diseases that might negatively affect wildlife is a major gap, and recommended that ISAC look into addressing this gap.

Robert McMahon, University of Texas at Arlington, said that the quagga mussel situation in Lake Mead suggests that the commercial movement of large vessels needs to be looked at as one of the major vectors for moving things like zebra mussels.

Chuck O'Neill, New York Sea Grant Program, said that the Governor of New York has funded the New York Invasive Species Task Force to the level of 3.5 million dollars, a little over a million of which has been designated for aquatic weed control and eradication programs. They are also looking to establish a state GIS database, as well as an Invasive Species Research Institute. They are setting up Partnerships for Regional Invasive Species Management (PRISMs), and have created a draft executive order, which is now ready to be signed by the new governor.

Lu Eldredge, Bishop Museum, said that they have received several grants to look for marine introduced species on the offshore islands, as well as a grant from Legacy Foundation to do a 10-

year resurvey of Pearl Harbor and Honolulu Harbor.

Celia Smith, University of Hawaii, reported that a seven or eight unit curriculum has been developed for the Hawaii Coral Reef Initiative. The curriculum is currently being reviewed by over 40 public and private school teachers. They hope that it will eventually be adopted by the Hawaii Department of Education.

Marilyn Leland, Prince William Sound Regional Citizens' Advisory Council, reported that they recently prepared a short briefing paper for their Congressional delegation.

Jeff Stone, Oregon State University, reported that he had found a new foliage disease on Radiata pine while working in Chile last September. It is a fungal pathogen, and is a potential threat to native forests in North America. Mr. Stone intends to continue studying this pathogen to determine the level of risk that it poses to North American pines. Mr. Cambre suggested that Mr. Stone report this finding to APHIS immediately, since Radiata pine being imported from Chile from the United States are not currently being treated for any pathogens.

David Brunner, National Fish and Wildlife Foundation, reported that NFWF continues to focus on developing new resources for creating a national rapid response fund, and that they would appreciate support for this effort from ISAC and NISC.

Joe Corn, University of Georgia, reported that, in the last year and a half, several exotic arthropods have been found in Florida, including two species of ticks not previously found on free-ranging wildlife in the United States.

Miles Falck, Great Lakes Indian Fish and Wildlife Commission, reported that the Wisconsin Invasive Species Council now has a Forest Invasive Leadership Team. The Forest Invasive Leadership Team is developing BMPs statewide to address invasive species on four tracks: urban forestry, right of way, recreational uses, and forestry. The forestry track is already underway, and the others will soon follow. Mr. Falck also expressed an interest in finding partners to pursue some new information technology, such as the Internet GIS.

John Peter Thompson, The Behnke Nurseries Company, commented on the need to find significant landscape alternatives to invasive species, and reported that, to this end, he is working with the Lady Bird Johnson Wildlife Center on sustainable landscape initiatives, and with the American Nursery and Landscape Association on cultivars and invasiveness.

REVIEW OF DAY ONE ACTION ITEMS

Item #1: Mr. Zimmerman recommended that a template or form be created to facilitate member agencies' requests for advice from ISAC. Mr. Zimmerman said that he would present the Committee with his concept for the template on Thursday, and the action item was tabled until Thursday.

Item #2: Ms. Hazlewood recommended that NISC reports be published and included in the meeting information folders. Mr. Brunner spoke in support of this recommendation, since the ability to access the reports ahead of time will allow more time for dialogue at the meetings. Mr. Thompson added to this action item language indicating that future agendas will attempt to allow ample time for dialogue on the reports published and included in the meeting information folders.

Item #3: Ms. Leland recommended that a presentation on ballast discharge standards be given at a future meeting. Ms. Leland added that she is particularly interested in hearing from Homeland Security, which includes the Coast Guard.

Item #4: ISAC recommends that NISC agencies, with leadership provided by the Department of Agriculture, provide a written analysis of three legislative proposals to reauthorize the Farm Bill regarding their implications to significantly reduce or increase the spread or introduction and spread of invasive species. The three proposals for which analysis is sought are: the Administration's proposed legislative language, the Senate Agriculture Committee Bill as reported forthcoming, and the House Agriculture Committee Bill as reported forthcoming. ISAC further recommends that NISC agencies identify future opportunities for the development of further federal regulatory or guidance language authorized by each of the legislative proposals likely to significantly promote either the increase or decrease in the introduction or spread of invasive species. With regard to this action item, Ms. Williams expressed her concern that the proposed analysis would be a burden to NISC staff, as well as a tedious and pointless exercise, considering that the time for influencing this legislation has passed. Mr. Brown suggested that, rather than proposing an analysis, ISAC simply request that NISC send a letter to Congress reminding them of Section 2 of the Executive Order. Dr. Reaser said that David Walker had suggested that ISAC assist in the implementation of the legislation, perhaps by putting together a task team to review the legislation once it comes out to identify potential opportunities or challenges, and to make recommendations. Mr. Wilkinson suggested that, if the legislation is enacted, ISAC put pressure on the DOE or USDA to only encourage the planting of non-invasive biofuel crops. **Ms. Hazlewood and Mr. Brunner agreed to rewrite this action item and bring it to the Committee's attention on Thursday.**

Item #5: ISAC recommends to NISC that regulations which apply to species without further taxonomic qualifications should also apply to all subspecies, varieties, and other subspecific taxa of that species. Dr. Stone pointed out a related problem, which is that different names may be applied to the same organism, and suggested that the issue of taxonomic synonyms be included in the language of the action item. Dr. Smith said that the action item would be more comprehensive if left in its original form. **The amended action item reads: "ISAC recommends that regulations that apply to species without further taxonomic qualifications also apply to the subspecies, varieties, taxonomic synonyms and other subspecific taxa of that species as appropriate."**

Item #6: An ad hoc working group was created to discuss the draft bylaws and the role of subcommittees in the current structure.

Item #7: ISAC recommends that NISC support, applaud, or endorse the concepts inherent in Island Conservation's efforts to eradicate invasive species on island ecosystems. Dr. Vollmer suggested that this action item be reworded to eliminate any specific mention of Island Conservation, since it would be inappropriate for NISC to endorse any one particular conservation group. Dr. McMahon added that Island Conservation is also looking for endorsement of cooperation among government agencies, and Mr. Hoffman said that this recommendation ought to stay focused on efforts taking place on islands within the jurisdiction of the United States.

PUBLIC COMMENT

Marshall Meyers, Pet Industry Joint Advisory Council

Mr. Meyers said that it is not true that the pet industry is uncomfortable with the regulation of reptiles. When Heartwater disease first came to Florida, the state of Florida, in cooperation with USDA and FWS, moved quickly to ban the importation, and the industry supported this ban. However, USDA did not feel that it had statutory authority over this matter. As a result, industry created a voluntary quarantine inspection system called the National Reptile Improvement Plan. Industry only became uncomfortable when the development of a regulatory quarantine system was attempted in the absence of statutory authority, and without the knowledge of APHIS. In the meantime, the state of Florida's Fish and Wildlife Commission's Law Enforcement Unit is encouraging all 50 states to adopt the National Reptile Improvement Plan in their regulations as the best management practice. The pet industry also supports this.

THE COMMITTEE RECESSED FOR THE DAY AT 5:30 PM.

NATIONAL INVASIVE SPECIES COUNCIL

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INVASIVE SPECIES ADVISORY COMMITTEE

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MEETING

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THURSDAY,
MAY 3, 2007

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SUMMARY

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The Committee met in the Grand Ballroom of the Doubletree Grand Hotel, 1717 North Bayshore Drive, Miami, FL; Dr. K. George Beck, Acting Chair, presiding.

COMMITTEE MEMBERS PRESENT:

PETER ALPERT	University of Massachusetts
GEORGE BECK	Colorado State University
GARY M. BEIL	Minnesota Crop Improvement Association
SHIPPEN BRIGHT	Maine Lakes Conservatory Institute
PATRICIA BRIGHT	Wildlife Center of Virginia
DAVID BRUNNER	National Fish and Wildlife Foundation
TIMOTHY J. CARLSON	Tamarisk Coalition
EARL CHILTON, II	Texas Parks and Wildlife Department
DIANE COOPER	Taylor Shellfish Farms
JOSEPH CORN	University of Georgia
LUCIUS G. ELDREDGE	Bishop Museum
MILES FALCK	Great Lakes Indian Fish and Wildlife Commission
CHRISTOPHER FISHER	Colville Confederated Tribes
AMY FRANKMANN	Michigan Nursery and Landscape Association
E. ANN GIBBS	Maine Department of Agriculture
CATHERINE HAZLEWOOD	The Nature Conservancy
JEROME A. JACKSON	Florida Gulf Coast University
MARILYN B. LELAND	Prince William Sound Regional Citizens' Advisory Council

ROBERT McMAHON	University of Texas at Arlington
CHARLES R. O'NEILL	New York Sea Grant Program
JAMIE REASER	Pet Industry Join Advisory Council
JEFFREY D. SCHARDT	Florida Department of Environmental Protection
CELIA SMITH	University of Hawaii
JEFFREY STONE	Oregon State University
JOHN PETER THOMPSON	The Behnke Nurseries Company
JENNIFER VOLLMER	BASF Corporation
KEN ZIMMERMAN	Lone Tree Cattle Company

COMMITTEE MEMBERS ABSENT:

JANET CLARK	Montana State University
JOHN KENNEDY	Wyoming Game and Fish Department

NISC STAFF PRESENT:

KELSEY BRANTLEY	Program Analyst
GORDON BROWN	DOI Policy Liaison
PAUL HOFFMAN	Deputy Assistant Secretary
RICHARD ORR	Assistant Director (International)
DEAN WILKINSON	DOC Policy Liaison
LORI WILLIAMS	Executive Director

NISC STAFF ABSENT:

PHILLIP ANDREOZZI	NISC Pacific Regional Coordinator
HILDA DIAZ-SOLTERO	USDA Policy Liaison
MARY JOSIAH	Office Manager

Dr. Beck called the meeting to order at 8:00 a.m., and gave a brief review of the previous day's proceedings.

DAY 2 PRESENTATIONS

Invasive Species Efforts in the Caribbean
Kate Semon, University of Florida (replacing scheduled speaker, Lester Flowers)

Ms. Semon began her presentation by saying that exotic invasives are a big problem on small islands, such as the Bahamas. Laws and policies that are now in effect in the Bahamas include the Bahamas National Trust Act, passed in 1959, which specifically regulates and manages invasive species in national parks, the Agricultural and Fisheries Act, passed in 1964, which targets the removal of trees from protected areas in the Bahamas, and the Conservation and Protection of the Physical Landscape of the Bahamas Act, passed in 1997, which has major implications for coastal restoration projects. These projects are important since most of the population in the Bahamas lives very close to the coastline. Other recent developments are the Invasive Alien Species Policy, and the National Biodiversity Strategy and Action Plan. The Bahamas also has a Biodiversity Committee, a National Invasive Species Strategy Project, and a draft form of the National Biosecurity Strategy. Most of the policies in effect in the Bahamas are in draft form, and have not yet reached the implementation stage.

The major regulatory and management bodies in the Bahamas are the Departments of Agriculture and Marine Resources, and the Bahamas Environmental Science and Technology Commission, the highest environmental authority in the Bahamas.

The goal of the National Biodiversity Strategy and Action Plan is to control invasive alien species. The plan recommends the establishment of protocols controlling the importation and evaluation of alien invasive species and of genetically modified organisms. The National Invasive Species Strategy Project has developed posters that are located in every government building and most schools, as well as a number of field stations in the Bahamas. These posters explain what invasive plants are, and encourage people to uproot them when they see them. The National Invasive Species Strategy Project has also developed other outreach materials. Some of the species that are recommended for eradication under the National Invasive Species Strategy Project are the Australian pine, melaleuka, tamarind monkeys, Asian scaevola, the Hawaiian inkberry, raccoons, and lionfish.

In working on invasive species issues in the Caribbean, Ms. Semon has been involved in the Coastal Ecology of the Bahamas Earth Watch Project, which collects ecological and geographic data on both terrestrial and marine invasives through stratified random sampling. They are also interested in the chain of events that lead to environmental change. The major four ways that humans alter coastal environments is through physical restructuring of the shoreline, dredge and fill activities, groundcover change and vegetation replacement, and introduction of exotic species. These disturbances in ecology lead to decreases in diversity, abundance of species, and ecosystem production and services. When the Project surveys coastlines in the Bahamas, these are some of the factors that they consider in their data-collecting.

Through her work, Ms. Semon found that human activities on land, such as clear-cutting, can greatly affect near shore marine communities. The data also shows a strong correlation between undeveloped coastlines, which are primarily dominated by native plants, and diversity of marine plants.

In the private sector, invasive species control efforts have been put in place, particularly on the Baker's Bay Gulf and Ocean Club, where Australian pines play a major role in sediment destabilization. Approximately 96 acres of Australian pines were removed from this area, which was then replanted with native species. This project cost over 10 million dollars. They are currently looking for funding to address the spread of lionfish.

The Bahamas have treaty obligations, such as the establishment of the Convention on Biodiversity, and the production of national response plans. The agencies in the Bahamas that currently deal with environmental issues are in transition from advisory entities to regulatory and enforcement entities.

The Bahamas are looking to develop a central database with the ability to track the spread of invasives throughout the islands, and to coordinate with regional and international entities, particularly the United States, in developing policies to protect these small islands.

Ms. Semon concluded by directing the Committee members to the Bahamas Environment, Science, and Technology Commission website, which has produced a document entitled, *The National Invasive Species Strategy for the Bahamas.*

Dr. Jackson asked if the Bahamas National Trust is involved with invasive species issues. Ms. Semon replied that the Bahamas National Trust works very closely with the national parks, and is involved in developing recommendations to the government. Dr. Smith asked Ms. Semon to comment on the potential impacts of land uses changes on sea grass in the Bahamas. Ms. Semon replied that one of the major destructive forces to sea grass communities in the Bahamas is sediment. This is why they are working with government entities to mandate that silk curtains be used when dredging activities are taking place. They are also looking to establish coastal management projects in which a coastal buffer is left intact in areas that are being cleared. This will help to protect marine communities.

Ms. Cooper asked if they are working with the tourism industry in the Bahamas to teach tourists about invasive species. Ms. Semon replied that they have conducted several survey initiatives, and have made additional efforts to walk around and talk to tourists about invasive species. Ms. Cooper asked what they are doing to reconcile the tension between the tourism industry and maintaining the ecological stability of the islands. Ms. Semon replied that they intend to call on the developers to be more environmentally sensitive. At this point, however, all they can do is educate people on invasive species issues, since the government entities involved do not yet have regulatory authority. Mr. Zimmerman asked if anything is being done to prevent the spread of invasives from the Bahamas into the United States. Ms. Semon was not able to comment on this. Ms. Gibbs said that the Caribbean Safeguarding Initiative, spearheaded by APHIS Plant Protection and Quarantine, has been established to address invasive species that may be entering the United States from the Caribbean. Mr. Fisher asked about the likelihood of Australian pines returning to the islands as a result of seed dispersal. Ms. Semon replied that continued monitoring and maintenance is built into the cost of removing an invasive species.

Dr. Alpert asked what research that has been done so far has been the most useful in managing invasive species in the Bahamas, and what research that hasn't been done yet would be the most helpful. Ms. Semon replied that a great deal of correlational research has been conducted, and that further research may focus on control mechanisms for the spread of invasive plants.

Dr. Reaser commented that genetic analyses indicate that the lionfish result from a very small number of founding populations and thus are not being regularly introduced. The findings further suggest that at least source was a public aquaria in the Bahamas, and there is strong suspision that the others were intentionally planted by at least one dive company and/or are escapees from a shoreline tank destroyed in a hurricane. At this time, there is no evidence that the fish are pet releases. Ms. Semon and Mr. Bright briefly discussed the political tension between the native Bahamians and the Haitian community, which exists in part as a result of the introduction of citrus cancer.

Mr. Wilkinson asked for Ms. Semon's perspective on the Caribbean Initiative on Invasive Species, and also asked if the Caribbean Regional Seas Group is looking to address any invasive species issues. Ms. Semon replied that the Caribbean does not yet have the infrastructure or the money to look into something like this. Dr. Eldredge commented on the South Pacific Regional Environment Program Initiative and the Pacific Invasive Learning Network. Mr. Dickerson said that APHIS is making a major effort in the Caribbean, and has also committed to doing pathway analysis on major invasives coming into Hawaii.

Strangers and Dangers: Invasive Exotic Animals In South Florida Ecosystems
Jerry Jackson, Florida Gulf Coast University

Dr. Jackson said that, although invasive plants are, from an economic perspective, the most dangerous invasives in South Florida, exotic invasive animals are rapidly becoming more prevalent and more dangerous in South Florida.

Dr. Jackson showed slides of various exotic and invasive species in South Florida, including the Brahminy blind snake, which, although it is exotic, does not yet appear to be causing any problems, and the Shovel-headed Garden Worm *(Bipalium kewense)*, a terrestrial flatworm that feeds only on earthworms, and is becoming an economic problem for people who farm earthworms. It has not yet been found that these creatures cause any serious problems. However, a larger problem may exit without being recognized. Sometimes invasive exotics go unrecognized because the creatures themselves are so small and inconspicuous, and sometimes because people do not understand the complexity of the interconnections between that species and its new ecosystem. A species that was not previously invasive can also become invasive by adapting to new environmental conditions.

Dr. Jackson displayed a chart showing that South Florida waters with the greatest number of exotic fish have the least number of native freshwater fish. Some of these exotics were introduced by the state to control other exotics, while others have been introduced as food, or to provide more interesting fishing for fishermen. The majority of the exotics, however, have been introduced by the aquarium industry. Some examples of exotic invasives introduced through the aquarium trade are walking catfish, native to Southeast Asia, and armored catfish, native to South America.

Walking catfish and armored catfish have in many cases become the primary food source for native wading birds. This is a problem because catfish are very difficult to eat, and cause the birds to expend a great deal more time and energy than would be necessary if they were eating other types of fish. Another invasive species is the cane toad, which was originally introduced to Florida as a biocontrol agent. The toads can now be found all over South Florida, and are extremely toxic. The cactus moth, originally introduced in Australia to control cacti, reached the Florida Keys by 1990. Several species of cacti in Florida are now threatened by this pest. Green iguanas, now found throughout Florida, do not pose a serious problem. A more serious threat is the black spiny-tailed iguana, which now has populations in both Southeast Florida, as well as on Gasparilla Island. Because these iguanas are carnivorous, they are a serious threat to coastal ecosystems. In creating their burrows, they also weaken the dune structure. Two invasive species, the black spiny-tailed iguana and the Brazilian pepper, are dependent upon each other for survival. The Nile monitor, a very large and aggressive lizard, poses a serious threat because it is capable of eating cats and dogs. More action needs to be taken regarding this species, which, next to the Burmese python, is one of the most threatening new predators being faced by the state of Florida. Most people feel that cattle egrets, native to South Africa, are a welcome addition to Florida's avifauna. However, these birds are very aggressive, and compete with herons and other egrets for nesting materials. These birds also have to potential to spread a disease-carrying tick from the West Indies to cattle in North America. The snail kite is currently an endangered species in the Florida due to the introduction of exotic apple snails. Exotic apple snails out-compete the smaller, native apple snails, which are the snail kite's only source of food.

The monk parakeet, native to Argentina, was introduced to the United States in 1972 when a crate full of these birds broke open at LaGuardia International Airport in New York. These birds have not yet become an agricultural pest in Florida. However, they are a nuisance because of the large

stick nests that they build, which cause close to a million dollars in damage to power lines every year. The European starling was introduced to New York City in the 1890s. By 1906, the European starling population in New York had increased to about 1000 birds. Around this time, a biologist noticed that the birds were causing problems, and proposed eradication to the Bureau of the Biological Survey. The government did not take action, and today, the European starling is the most abundant bird in North America. They are a vector for both human and livestock diseases, consume large quantities of feed grain, prey on songbirds and their eggs, and compete for space with cavity nesting birds. Another invasive species that is closely related to the European starling is the common myna, native to Asia. These birds have been breeding in Florida since the 1980s, and their populations are growing. Although they are not yet causing any serious problems, they have tremendous potential as an agricultural pest. The brown-headed cowbird, native to the Great Plains, is now invasive in Florida. It is a nest-site predator and brood parasite to many songbirds. As a result of the introduction of this species, the Curtland warbler is now endangered.

Dr. Jackson added that invasive species problems are often more complex than they appear. New negative impacts of exotic species can appear decades after a species is introduced. One must not be complacent about a new species just because it does not appear to be having any negative impacts at the time.

He concluded his presentation by emphasizing the need for further cooperation among nations and states in dealing with invasive species issues.

Dr. Alpert asked Dr. Jackson if he thought they should make some kind of recommendation regarding the Nile monitor. Dr. Jackson replied that it might be helpful to make a recommendation. Although Nile monitors are currently considered to be a local problem, they will ultimately become a national problem. Therefore, the situation must be addressed aggressively. Mr. Fisher asked what efforts were being made to trap black spiny-tailed iguanas on Gasparilla Island. Dr. Jackson replied that the locals are currently addressing this problem on their own. However, more coordination and funding will be needed to solve the problem.

Mr. Schardt stressed the need for a national clearing house for information on invasive species. Dr. Jackson agreed that this could be an important outreach effort. Dr. Reaser said that she would like to see some of Dr. Jackson’s data on catfish and snail kites. She then suggested that ISAC make more of an effort to harness the concern and compassion that people have for particular species, and build this compassion into a concern for whole ecosystems.

Mr. Brown commented that the National Park Service, along with other groups, has been working to promote the idea of creating reptile response teams similar to the exotic plant management teams already in place. He hopes that there will be support for the creation of these reptile response teams at higher levels. Mr. Brown said that there may also be a place in the South Florida Initiative for addressing reptiles and pathogens.

NISC RESPONSE TO ISAC RECOMMENDATIONS

The first recommendation from the September 2006 meeting was that the Secretary of Agriculture and the APHIS Administrator initiate the formation of a New Pest Advisory Group to investigate the genus Paratrechina, and to report on the origin of the paths and make recommendations as to the potential appropriate regulatory actions.

In response to this recommendation, Mr. Orr said that he had gone to USDA and asked them to form a New Pest Advisory Group. USDA replied that they had already formed an NPAG, but that this group is not able to address the Paratechina issue, since, not having been proven to be a plant pest, Paratrechina does not fall under the regulatory coverage of APHIS. However, Mr. Orr was told that, if he could gather additional information on Paratrechina's potential to become an agricultural pest, the NPAG would be willing to reevaluate the organism. To this end, some work is currently being done at Texas A&M. Mr. Orr has not heard back on the progress of these efforts. Dr. Reaser said that she has been in touch with the researchers, and that they have found that this species of Paratrechina do have significant negative effects on other species. They are, for example, outcompeting the red imported fire ant. They are also having very costly impacts on electrical circuitry, which is a major concern for security at the Port of Houston and NASA. The Paratrechina issue raises the question of how to deal with urban pests and those which impact infrastructure. This seems to be a gap in regulatory coverage. Mr. Orr asked Dr. Reaser to send him the date generated by Texas A&M. Dr. Reaser replied that it would be inappropriate for her to provide the U.S. Government with their personal data, and that he and/or USDA needs to build a relationship with the scientists. Based on past interactions, it may take some effort for them to become comfortable sharing the data.

The second recommendation was that the NISC member departments and agencies encourage holding and participating in an international symposium on transgenic methods for biological control of fish. The symposium should include a broad interdisciplinary approach focusing on the state of the science, sociopolitical issues, policy and regulatory considerations, economic implications, and ecological risks and benefits.

In response to this recommendation, the International Transgenic Fish Symposium is now being planned. They have not yet chosen a date or a venue for the symposium. However, NOAA and FWS have both agreed to participate in it. Ms. Williams said that she would keep ISAC informed as to further developments.

The third recommendation was that NISC support adequate and continuing funding and staffing for Classical Systematics research, education, and operations, including the care and maintenance of Systematics' collection.

In response to this recommendation, a draft white paper on the importance of doing an analysis on Systematics' capacity has been produced and cleared through all of the agencies. Across the federal government, there is a broad concern regarding Systematics' capacity. Some agencies have

also expressed concern that the serious problem of supporting taxonomic research, education, and operations cannot be solved solely by those involved with invasive species.

The fourth recommendation was that NISC do a better job of continuing to monitor and follow up on ISAC recommendations from prior meetings.

In response to this recommendation, NISC will be providing ISAC members with a list of recommendations from 2005 to the present with brief notations on the status of each of these recommendations.

Ms. Williams then gave the status of ISAC's recommendation of May of 2006 that the Army Corps of Engineers provide funding for a permanent barrier for the Chicago Sanitary and Ship Canal in order to keep the Asian carp and other species from entering the Great Lakes. NISC responded to this recommendation by holding a meeting in Chicago. The President's proposed budget for FY 2008 now includes $750,000 for the temporary barrier, and $6.9 million for the permanent barrier.

Also at the May 2006 meeting, ISAC approved the Pathway's ranking guide report, and requested that NISC and ANSTF prepare an implementation strategy for the guide to be used within federal agencies. In response to this recommendation, an implementation guide was created, which can be found under Tab 5 in the members' notebooks.

At the February 2005 meeting, ISAC recommended that NISC member agencies provide monetary and technical support in cooperation with the State of Florida to design and implement an eradication program for the Florida Keys population of Gambian pouched rats.

In response to this recommendation, the U.S. Fish & Wildlife Service provided $35,000 in FY 2007 for the continuation of this effort.

MEMBERS FORUM

Jennifer Vollmer, BASF Corporation, reported that BASF announced yesterday its matching grant program for invasive species control. They have $300,000 available for this program.

Tim Carlson, Tamarisk Coalition, thanked the State of Florida for the previous day's tour, and for providing an example of a successful effort.

Jamie Reaser, Pet Industry Joint Advisory Council, announced that the Chytrid Symposium will be held November 5th through 7th in Tempe, Arizona.

Peter Alpert, University of Massachusetts, suggested that more attention be directed towards potential pathways for invasive species entering the United States from China, since trade with China has drastically increased over the last ten years.

Patricia Bright, Wildlife Center of Virginia*,* recommended that a subcommittee or a task team be formed to further discuss the issues brought up earlier in relation to pathogens and reptiles.

Ann Gibbs, Maine Department of Agriculture*,* recommended that a presentation be given at a future ISAC meeting on the Invasive Plant Atlas of New England project.

Robert McMahon, University of Texas at Arlington*,* commented that Texas has the same species of invasive apple snail, Pomacea insularum, as Florida, and suggested that the two states begin sharing information and resources in addressing this problem.

Diane Cooper, Taylor Shellfish Farms*,* said that Taylor Shellfish Farms had recently been targeted as a pathway for a tunicate that's invasive to many estuaries in Washington State. The industry is aware that it is a pathway, and is taking measures to deal with this. However, the industry is also a victim, and for this reason is willing to do anything in its power to help mitigate the problem.

Marilyn Leland, Prince William Sound Regional Citizens' Advisory Council*,* said that many people have been inquiring about the possibility of holding an ISAC meeting in Alaska, and that she hopes they will be able to do this.

David Brunner, National Fish & Wildlife Foundation, recommended that ISAC request USDA and USDI to determine which state and/or federal agencies have the responsibility to protect native wildlife, including endangered species, from the introduction of invasive species and disease agents.

Mr. Wilkinson suggested that Mr. Brunner replace the word "responsibility" in this recommendation with "regulatory authority." Dr. Reaser suggested that a sentence be added to the beginning of the recommendation indicating ISAC's concern that a gap exists in the regulatory authority in terms of addressing potential invasive species that may have negative effects on wildlife within the United States. Dr. Beck suggested that they postpone further discussion of this recommendation until the afternoon session.

Miles Falck, Great Lakes Indian Fish and Wildlife Commission*,* presented a reworded version of the previous day's Island Conservation recommendation.

The new recommendation reads: ISAC recommends that NISC support the eradication of invasive species in island ecosystems within the U.S. jurisdiction through cooperative partnerships of public and private organizations. Mr. Falck moved for the acceptance of this recommendation, and Dr. Eldredge seconded. Dr. Reaser suggested that the phrase "within the U.S. jurisdiction" be stricken from the recommendation, and Mr. Hoffman agreed to withdraw his previous day's friendly amendment to include this phrase in the wording of the recommendation. The motion was then called to a vote, and passed unanimously.

John Peter Thompson, The Behnke Nurseries Company, followed-up on Ms. Cooper's comment by saying that his industry also recognizes that it is a pathway, and is sensitive to the implications of this.

ADOPTION OF OPERATING GUIDELINES AND ISAC OFFICERS RECOMMENDATIONS

Mr. Bright presented the Committee with a slate of officers to either accept or reject: George Beck (ISAC 2) as Chair, Ken Zimmerman (ISAC 2) as Vice Chair, and John Peter Thompson (ISAC 3) as Secretary.

Mr. Bright then called for a motion to accept the concept of accepting a slate. Dr. Beil made the motion, Dr. Alpert seconded, and the motion passed. The Committee voted to accept the slate of officers as given.

The Committee agreed to select members for the Steering Committee by pulling the names of volunteers at random. The names of the ISAC Class 2 and ISAC Class 3 volunteers were placed in one pile, while the names of the ISAC IV volunteers were placed in a separate pile. Four names were then drawn from each pile.

The ISAC Class 4 Steering Committee members are: Patti Bright, Ann Gibbs, Peter Alpert, and Catherine Hazlewood. The ISAC Class 2 and Class 3 Steering Committee members are: Jerry Jackson, Chuck O'Neill, Tim Carlson, and Lu Eldredge.

Ms. Williams went over several revisions and corrections that were made to the draft bylaws by the ad hoc working group.

Mr. O'Neill moved to accept the revisions as drafted by the ad hoc working group, Mr. Zimmerman seconded, and the motion carried.

DAY 2 PRESENTATIONS (cont.)

Regulation and Management of Invasive Animals in Florida
Scott Hardin, Florida Fish and Wildlife Conservation Commission

Mr. Hardin began his presentation by giving some statistics on the numbers of non-native species present in the State of Florida. Of a total of about 463 non-native species that have been found in Florida, 125 are currently established.

The habitat alterations that are currently taking place in Florida have facilitated the establishment of a number of non-native species. Florida is also the center of the U.S. tropical aquaculture industry, as well as the entry point for many plant and animals imports. Another factor in the establishment of invasive species in Florida may be the state's isolation as a tropical zone. As a result of this isolation, most of the species that naturally populate Florida originate from temperate

zones.

In terms of regulations, the Florida Fish & Wildlife Conservation Commission's general approach is to encourage responsible pet ownership. In 1970, they wrote the first and most comprehensive set of captive wildlife regulations to date. By 1973, they also had a set of wildlife inspectors. They put together the first list of restricted fish species in 1972, which was followed by a prohibited list in 1982. Until 1999, marine statutes were instituted by the legislature. One overarching statute states that any species of the animal kingdom that is not indigenous to Florida may not be brought there without a permit.

The agency has just consolidated its set of rules to include the broadest statement yet on the prohibition of the release of any non-native animal. This regulation is very difficult to enforce. However, it also allows people to remove any non-native species without restriction.

The Florida Fish and Wildlife Conservation Commission's regulations are risk-based and tiered. Levels of risk are determined through the use of risk analyses and bioprofiles. Before the risk analyses are conducted, experts are called in to assemble the biological information to be considered by the stakeholders in assessing risk and potential mitigation strategies.

The agency has a tiered set of regulations for dealing with captive wildlife. Tier 1 includes large animals. These animals may only be brought into Florida with a permit, and upon demonstration of substantial experience in dealing with the animals. These animals may only be used for education, exhibition, and research. No one may keep these animals as personal possessions unless they were acquired before 1980. Tier 2 includes smaller cats, canines and primates. In order to posses these animals, one must have a permit, and demonstrate knowledge of the species. Tier 3 includes most other animals, which may be kept as personal possessions with a no-cost permit. A new rule is in place concerning six different species of reptiles. These animals must be permanently marked, preferably through PIT tagging. This tagging system should assist in the enforcement of the no-release regulation, since it will give them the ability to identify the owners of released animals. A bill requiring a $100 permit for these animals has also passed the legislature, and should help to prevent people from purchasing these reptiles on impulse.

In terms of regulations for non-captive wildlife, certain conditional species may be used for commercial purposes with appropriate biosecurity, and may also be kept by accredited research and exhibition facilities. Prohibited species may only be used for very limited exhibition and research by facilities that have gone through a rigorous accreditation process.

Mr. Hardin then gave several examples of how the agency is working to improve surveillance efforts. They are currently working with other government agencies to understand the distribution of apple snails, and are trying to gather more information from the public on the distribution of the Argentinean black and white tegu.

One of the agency's education/outreach programs is Project Wild, which trains teachers in teaching ecology. They have also held two pet amnesty days, one in Orlando and one in

Clearwater, both of which were funded by the Florida Wildlife Foundation. One of the major problems with doing an amnesty program is that people are concerned that their animals will be killed. For this reason, great pains were taken to find people willing to adopt the animals. The second amnesty day was more successful than the first, and was covered by the media. In terms of next steps, they hope to put together an adoption registry of qualified individuals, so that people will be able to turn over their pets at any time. In general, they hope to create an ongoing network that will go a long way towards closing the pet-release pathway.

Mr. Hardin then gave several examples of rapid response efforts conducted by the agency. A population of exotic fish found near the University of Florida has since been eradicated. An eradication effort is currently being conducted in the Everglades on a species of bird called purple swamphen. Six hundred of the birds have since been removed; approximately 50 to 100 remain.

Mr. Hardin then gave an update on the removal of Gambian giant pouched rats from Grassy Key. It is believed that a group of eight rats escaped from captivity on the island in 2001. The growing population of rats was brought to the attention of the government three years later. At this point, the Fish and Wildlife Service did some preliminary trappings, and in March of 2005, held a first meeting on the topic. In January of 2007, the actual eradication project commenced. The plan for killing the rats is to lure them to poisoned bait stations. To determine the proper placement of the bait stations, several rats were captured and affixed with radio collars for the purpose of surveying their movements. The rats will be poisoned with zinc phosphide. This kills the rats much more quickly than anticoagulants. The capture sites for the rats will be very close to houses. In order to set traps on private property, they were first required to receive permission from each of the individual property owners. Six hundred bait stations have already been set up, and an additional 400 stations will be set up within the next two weeks. The toxic baiting process will begin in mid-May, and will continue for six weeks. A total of $200,000 has so far been dedicated to this project. However, and additional $10,000 will be required to complete the eradication.

Mr. Brunner asked Mr. Hardin to send him an email regarding his need for $10,000, and said that he would try to provide this funding. Dr. Patti Bright asked if the zinc phosphide will have any effect on predators that may eat the rats. Mr. Hardin replied that the poison will kill anything that eats the rats. They anticipate some non-target kill of raccoons and opossums, and have determined that this is an acceptable trade-off. However, the size of the bait stations excludes the possibility of these predators eating the bait itself.

Dr. Reaser acknowledged Mr. Hardin and his team for reaching out to the stakeholders and involving them in a scientifically defensible and transparent process. Dr. Alpert asked Mr. Hardin if, when species are put on the list, their scientific names are always included. He also asked why the risk analyses are not conducted by the disinterested experts who compile the preliminary reports. To the first question, Mr. Hardin replied that scientific names are always included on the lists. To the second question, he replied that they prefer to keep the risk analysis process separate from the preliminary compiling of information, since it involves the weighing of values. Mr. Brown asked if members of the public can petition for listings. Mr. Hardin replied that the public may make recommendations at meetings of the technical advisory group. Dr. Bright asked how

they plan to enforce compliance on the reptile licensing regulation. Mr. Hardin replied that no one will be able to legally taken possession of a reptile of concern without first demonstrating that they have acquired the necessary permit.

Invasive Plant Classroom Curriculum Adaptable For National Use
Amy Richard, University Of Florida, Center for Aquatic and Invasive Plants

Ms. Richard reported on some of the outreach materials on aquatic and invasive plants that have been created over the years in Florida, and how these could be adapted for use in other states and regions. In particular, she reported on a website, developed six years ago, which is essentially an encyclopedic guide to plant management in Florida and Florida's freshwater systems. This website is now being accessed by people not only living in Florida, but across the country and around the world.

The Center determined that the best ways to reach the public with all the outreach materials developed in Florida would be through the state park system and the public school system. The Center has begun working with six or seven state parks that expressed an interest in helping them to create public outreach materials such as brochures and kiosks. A series of brochures has been developed listing the six most aggressive invasive plants in each park. These will be handed out to people during guided tours of the parks, as well as to the people living adjacent to the state parks. They are also designing some kiosks which will provide the same type of information. Ms. Richard said that it is important to educate the public that some plants can be harmful, since otherwise they get upset when they see control efforts taking place.

In terms of developing materials for classroom use, the challenge is to develop materials that meet the Florida State Sunshine Act standards. To this end, the Center is working closely with teachers to determine what types of materials they can and cannot use. At a Florida Association for Science Teachers meeting several years ago, the Center held a number of workshops over a period of three days. During this time, the teachers recommended the creation of a teaching package of PowerPoint presentations. In response to this request, the Center is in the process of creating four PowerPoint presentations on different topics, which could easily be adapted for use in other areas of the country. The first presentation will provide definitions and examples of native, non-native, and invasive plants. The second presentation will focus on why invasive plants need to be managed. The third presentation will be on fishtail, which provides a platform for discussing how invasive plants can complicate the ecology of freshwater systems. The fourth presentation, which will be geared towards slightly older students, will explain how invasive plants can change or complicate the management of trophic states. In conjunction with these materials, the Center has also been asked to create some related activities that can be used to reinforce the message of the PowerPoint lessons. The Center is working to develop these materials, as well as a website that can be used by teachers as a quick reference guide.

Ms. Richard again stressed how the Center is working to find new ways to use materials that have been created in the past 15 years. One of the ways that they are doing this is through the creation of games, puzzles, flash cards, and other activities for school children. They hope to begin holding

professional development workshops for teachers each summer, the first of which will take place this summer. Ms. Richard expressed her belief that, through classroom education, invasive species management can become a household concept within the next few years. She concluded by encouraging the Committee to begin considering this type of project on a national scale.

National Aquatic Plant Research Programs and Request for Funding
Jeff Schardt, Florida Department of Environmental Protection

Mr. Schardt began by saying that he U.S. Army Corps of Engineers (USACE) has a program, called the Aquatic Plant Management Program, that funds research and operational monitoring, the initiation of new programs, and cost share management of aquatic plants with the states. However, funding for this program has been significantly reduced since 1996. The administration for this program is already in place, along with the selection criteria for both research and management. The program is capped at about $15 million annually. However, it has only been funded at a one and a half to four million dollar level since 1996. In 2004, NISC sent a letter to the Assistant Secretary of the Army for Civil Works to increase this program to its $15 million cap. USACE has not responded to this request. However, there are some indications that the Corps of Engineers has changed its feeling with regard to this program. Thus, now may be a good time to reapply to them regarding this matter. This time, however, they would not only like to see funding for the Aquatic Plant Management Program increased to the $15 million cap, but would also like to see this done an on annually recurring basis, so that six to seven million dollars can be dedicated to research from all over the country, as well as to operational support and monitoring. Any leftover funding can be used to establish new programs, and to cost share with the states.

Mr. Schardt requested that ISAC ask NISC to write to the Assistant Secretary of the Army for Civil Works, as well as to the Army Chief of Engineers, requesting that the Aquatic Plant Management Program be funded at its $15 million cap so that the needed laboratory and operational research, as outlined in the list of national priorities, can be expanded.

Interagency Invasive Species Working Group On Plants And Animals
Brian Nelson, Southwest Florida Water Management District

Mr. Nelson currently serves as chair of the Invasive Species Working Group. He began his presentation by providing some background on the creation of the Invasive Species Working Group. In 2000, the Governor of Florida requested that the Florida DEP develop a statewide strategic plan on invasive species in response to hearing that federal money would be available to states that have invasive species plans. The strategic plan was accordingly developed, and was approved by the Governor in 2003. With the exception of diseases and human health issues, the plan covers all taxa. Once the plan was approved, the agency representatives realized that they needed a way to implement the plan's action items. Accordingly, they took it upon themselves to form an Invasive Species Working Group (ISWG) to implement the plan. Voting membership in the ISWG is limited to the state agencies, although a cooperative status is available to federal agencies, non-governmental organizations (NGOs), and other groups that wish to be involved. The members of the Invasive Species Working Group are the Florida Department of Agriculture and Consumer Services, the Florida Fish and Wildlife Conservation Commission, the Florida

Department of Environmental Protection, and the Florida Department of Transportation. The University of Florida and the five water management districts are also playing important roles.

The goals of the ISWG are to implement the action items contained in the strategic plan, and to improve cooperation among agencies to better coordinate their approach.

The ISWG's MOU was approved in 2004. The ISWG has also provided some recommendations to the Department of Agriculture on the Giant Reed *(Arundo donax)*, which resulted in the passage of some legislative rules on how this issue should be addressed. In 2005, they recommended that the Department of Environmental Protection be made an official member of the State Noxious Weed Invasive Review Committee, which was formed for the purpose of consolidating the counties' prohibited plant lists into a single state list. They are still waiting for a response on this recommendation. They have also recommended that the Department of Environmental Protection and the Florida Fish and Wildlife Conservation Commission make a cooperative effort to resolve the issue of Caulerpa taxifolia, since the State of Florida has been having trouble determining which agency is responsible for dealing with this issue. In 2005, they recommended that the Fish & Wildlife Conservation Commission develop a consistent statewide feral hog policy. Action has not been taken on this recommendation. A Private Lands Working Group Subcommittee has been established for the purpose of summarizing all of the incentive programs that are available from the federal and state agencies to assist private property owners in dealing with invasive species issues. The ISWG has completed an initial effort to document state agency invasive species management costs, and feels that this would be a useful exercise at the federal level, as well.

In fiscal year 2003 through 2004, the state agencies spent $43 million on invasive plant pathogens, $56 million on invasive plants, and relatively little money on invasive marine mammals, reptiles, and amphibians. Hopefully, this will be changing soon. Fifty million dollars was spent on control, $44 million was spent on eradication, $1 million was spent on research, and $250,000 was spent on education and outreach. As a result of these findings, the ISWG has recommended that the Florida Fish & Wildlife Conservation Commission seek funding to implement an adequate program for animals. The Commission will probably be addressing this next year.

At this point in time, the ISWG is in need of some official guidance from the agencies in order to continue its efforts.

FDEP Strategy And Importance Of Coordinating Invasive Species Management
Don Schmitz, Florida Dept. Of Environmental Protection

Mr. Schmitz began his presentation by summarizing the history of Florida's experience with invasive species on public lands and waterways. Currently, about 2,400 invasive or non-native plant and animal species are established in Florida, with an average of 10 new species invasions per year. Florida also has a long governmental history in managing invasive species, beginning in 1899 with the control of water hyacinth. Between the state agencies, the counties, and the federal agencies, and private landowners, approximately $755 million is spent on invasive species each year in Florida.

Some lessons learned are that central leadership is required on invasive species issues, as well as consistency in the policy goals of monitoring, early detection and rapid response, the coordination of management information and funding, and place-based management. More research is also required to target management and prevention efforts.

Mr. Schmitz then described the present architecture of the government's response to biological invasions in the U.S. There are eight specific federal initiatives that address invasive species: the National Invasive Species Council, the Aquatic Nuisance Species Task Force, the Federal Interagency Committee for the Management of Noxious and Exotic Weeds, the Midwest Natural Resource Group, the National Plant Diagnostic Network, the 100 Meridian Initiative, the Plant Conservation Alliance, and the Alien Plant Working Group, some of which include several tiers. Within the federal agencies and institutions, there are 176 divisions and/or program pertaining to invasive species. Most of these programs are constituency group driven, and tend to focus on very particular issues. At the state level, there are 476 such divisions and/or programs. Approximately 40 state ANS and/or invasive species management plans have either been completed or are nearing completion.

The problem with the current system is that "what's everybody's business is nobody's business." Since the enactment of the presidential executive order, the federal agencies have failed to lower the number of new invasive species. Better technologies and filtration methods are needed. The federal government is not aggressively implementing existing federal laws. Federal agencies have failed to track expenditures or to promote action at the state and local levels. What's needed to solve these problems is the establishment of a coordinating entity to act as the central, national leader on invasive species. The first step in this direction was the creation of the National Invasive Species Council and the National Invasive Species Management Plan. However, NISC lacks the infrastructure, resources and staff to act as a coordinating entity at the national level. Mr. Schmitz then held up the CDC and the National Interagency Fire Center as models of effective national leadership bodies.

Mr. Schmitz said that the next step towards establishing national leadership on invasive species should be the creation of a National Center for Biological Invasions. The Center would not act as a regulatory body, but would assist federal, tribal, state and local governments in improving prevention, eradication, research and management activities. The Center would track invasive species range expansions owing to global climate change, help to coordinate early detection and rapid response efforts, develop national standards and guidelines, and provide educational resources to the states, news media, and the public. It could be the starting point for a national public awareness campaign. The Center could assist local and regional efforts by increasing funding for control and prevention, by providing better coordination for current prevention activities, and by targeting those species that lack an effective constituency. Finally, a National Center could provide an emergency contingency funding source to be distributed nationwide.

Mr. Schmitz concluded by recommending that a joint task team be established between NISC and the ANS Task Force for the purposes of (1) researching existing federal models, such as the CDC and the National Emergency Fire Center, (2) designing an operational

framework of a Center to enhance existing federal, tribal, state and local efforts, (3) costing out a budget for a center, and (4) producing a white paper with draft legislative language to establish a Center.

DISCUSSION AND VOTE ON RECOMMENDATIONS

The first recommendation reads as follows: "ISAC advises NISC to promote creation of rapid response teams for reptiles analogous to those that currently exist for plant species. One example of a reptile for which a rapid response team may be needed is the Nile Monitor recently introduced to the Florida mainland."
The motion previously made on this recommendation was seconded. Dr. Reaser suggested that the word "reptiles" be replaced with "vertebrate species." Mr. Alpert accepted this friendly amendment, and the motion passed unanimously.

The second recommendation to request further information on red mites was withdrawn by Ann Gibbs.

The third recommendation reads as follows: "ISAC is concerned that there may be gaps in federal and state authorities intended to prevent the introduction of disease agents that have potential to negatively impact native wildlife, including endangered species. Therefore, ISAC requests that NISC member agencies determine if or which state and/or federal agencies have the regulatory authority to prevent the introduction of exotic disease agents that would negatively impact native wildlife. This would include the authority to restrict importation of selected exotic species and to require examination and testing of imported exotic species for selected disease agents."

The motion previously made on this recommendation was seconded by Peter Alpert. Mr. Brunner suggested that the word "wildlife" be replaced with "wildlife and plants." Ms. Hazlewood commented that, although there is a gap in the coverage of wild plants under the Plant Protection Act, there is a much larger gap in coverage of wild animals under the Animal Health Protection Act. The motion passed unanimously with no amendment.

The fourth recommendation reads as follows: "ISAC recommends NISC agencies provide a written analysis of the 2007 Farm Bill when enacted for its implication to reduce or increase the introduction and spread of invasive species. ISAC further recommends that NISC agencies identify future opportunities for the development of further federal regulatory or guidance language authorized by the legislative language likely to significantly promote either the increase or decrease in the introduction or spread of invasive species."

The motion previously made on this recommendation was seconded by Ann Gibbs, and the motion passed with one dissenting vote.

The fifth recommendation reads as follows: "ISAC recommends that regulations that apply to species without further taxonomic qualifications also apply to the subspecies, varieties, taxonomic

synonyms and other subspecific taxa of that species as appropriate."

The motion previously made on this recommendation was seconded. Dr. Jackson said that there is no such thing as "other subspecific taxa," and recommended that this wording be replaced with "other subspecific categories." Dr. Alpert accepted this as a friendly amendment, as the motion passed 12 to 10.

The sixth recommendation reads as follows: "ISAC recommends that NISC write to the Assistant Secretary of the Army for Civil Works and the Army Chief of Engineers to encourage USACE to seek funding for the Aquatics Plant Control Program at its $15 million cap, so that needed laboratory and operational research can be expanded."
The motion previously made on this recommendation was seconded by Earl Chilton. Dr. Alpert asked how this program awards research funds. Mr. Schardt replied that the research is either conducted in-house, or is contracted out to research agencies around the country. Dr. Vollmer and Dr. McMahon spoke in favor of the recommendation, and the motion passed unanimously.

The seventh recommendation reads as follows: "ISAC recommends that NISC and the ANS Task Force establish a joint task team to explore an operational framework for a National Center for Biological Invasions by researching existing models like the Centers for Disease Control and Prevention and the Nation Interagency Fire Center, which deal with multi-jurisdictional responses, design a center to enhance federal, tribal, state, and local efforts for preventing, monitoring, researching, and managing invasive species in the U.S., cost out a budget for the center, and produce a white paper with draft legislative language that would establish the center."

The motion previously made on this recommendation was seconded by Lu Eldredge. Ms. Hazlewood suggested that ISAC explore these ideas directly with Congress, rather than putting the burden on NISC. Ms. Williams said that it had been her understanding that the recommendation would be for ISAC to form a task team to begin fleshing out these ideas, rather than putting the burden on NISC and the ANS Task Force. Mr. Schardt agreed to change his original recommendation to an action item requesting that ISAC form a task team consisting of ISAC members, NISC agency members, and all other interested parties for the purpose of further discussing these issues, and ultimately producing a white paper.

The eighth recommendation reads as follows: "ISAC recommends that NISC fill the position of outreach and communications specialist in FY 2008. ISAC believes that this position is critical to the success of NISC's communication, education, and outreach goals."

The motion previously made on this recommendation was seconded by Marilyn Leland, and the motion passed unanimously. Jeff Schardt added an additional action item – that ISAC push for the inclusion of invasive species issues as a part of next year's National Environmental Educators Week.

Dr. Beck said that NISC's requests for future ISAC work will be circulated by email to the Committee members. The Committee members will be expected to respond to this by saying

which of these requests they would be interested in addressing through participation in a subcommittee or task team.

PUBLIC COMMENT

Amy Richard, University of Florida Center for Aquatic and Invasive Plants

Ms. Richard said that the information they have available to educators has been put up on their website. She also invited anyone who is interested to attend their next teacher workshop, and said that she is open to recommendations from ISAC on how they can provide easier access to online materials for teachers. Mr. Falck asked Ms. Richard if the capability already exists for adapting these materials for other states and regions. Ms. Richard replied that they are working on this, and that it will certainly be possible in the future. Mr. Fisher asked if there is any way that teachers and students can be used as a method of gathering information on the distribution of invasive species. Ms. Richard replied that they are working on this. In particular, they are looking into a project taking place in Florida to create a database where people can enter information on invasive species.

With regard to one of Tuesday's action items, that a template or form be created to facilitate member agencies' requests for advice from ISAC, the Committee agreed to accept the template as written, on the condition that the typos are corrected.

The next ISAC meeting will be held either the week of October 1st, or the week of September 24th. The Committee members also expressed interest in holding an offsite meeting in Alaska in the spring or fall of 2008.

Mr. Bright requested that NISC send a letter of appreciation to the Governor of Florida for facilitating the previous day's events, and suggested that the sending of similar letters be made standard procedure whenever ISAC goes on a field trip.

Dr. Beck entertained a motion to adjourn. The motion was made and seconded.

ISAC ADJOURNED THE MEETING AT 4:00 PM.