

REPORT OF THE USAHA/AAVLD COMMITTEE ON AQUACULTURE

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The Committee met on October 16, 2016 at the Sheraton Greensboro Hotel in Greensboro, North Carolina from 12:30 to 6:15 p.m. There were 12 members and 19 guests present.

Presentations and Reports

United States Department of Agriculture – Aquaculture Program Update

Kathleen Hartman, USDA-APHIS-VS

Dr. Hartman provided the updates on three main topics:

- a. Commercial Aquatic Health Program Standards (CAHPS) Program – She provided the background and the impetus/genesis of the why the program was started including information on the Commercial Bait and Sportfish Survey and the cost of regulations. She outlined the essential components of the CAHPS program and spoke of the pilot CAHPS programs which are tilapia cooperative in North Carolina, the salmon producers – saltwater in Washington and freshwater in Maine. She provided greater detail of the program in North Carolina. Mr. Randy Gray, part of the tilapia cooperative, provided the producer's perspective of their involvement with CAHPS.
- b. Program Projects
 - i. Hartman spoke of the Trout and Salmon Survey of 2016-2017, which is being undertaken by Dr. Carole Engle, and supported by the Western Regional Aquaculture Center, U.S. Trout Farmers Association, and USDA-APHIS.
 - ii. Shellfish Projects – Hartman summarized on an east coast workshop which was held in Maryland this year and the development of a shellfish surveillance project. She also reported on the Pacific Northwest Infectious Salmon Anemia (ISA) surveillance and spoke briefly on the case definitions for infectious salmon anaemia (ISA) and Spring Viremia of Carp. The upcoming 2018 National Animal Health Monitoring Service Aquaculture Survey will cover all aquaculture rather than just being catfish centric, the National Animal Health Laboratory Network (NAHLN), and the Surveillance Collaboration Services Core One Master program database. She also stated that proficiency testing is planned for all laboratories approved for exported related aquatic pathogen testing.
- c. Import/Export updates – Dr. Hartman provided information from Dr. Christa Speekman of the National Import/Export Service, which included the newly negotiated certificates, the bilateral audit with Canada, and the expanding export markets for both finfish and shellfish.

The presentation can be found on the Committee page at www.usaha.org.

Update on the National Aquaculture Association's Activities Covering Aquatic Animal Health Issues and the Recommendations to the Next Administration

Paul Zajicek, National Aquaculture Association

Mr. Zajicek provided the background about the National Aquaculture Association (NAA) which has three main aims – advocacy, education and promotion. In terms of advocacy, the NAA which represent a very diverse industry supports the USDA as the lead agency for aquatic animal and pathogen regulation, the implementation of the Commercial Aquatic Health Program Standards (CAHPS) and the National Aquatic Animal Health Plan. It also supports increase funding (federal, state and private) for aquatic

animal health research; drug, chemical, vaccine and alternatives to antimicrobials and aquatic animal veterinary education programs. He reported that NAA had an aquatic animal health committee and a subcommittee of aquatic animal health professionals as well a welfare committee. He also touched on the NAA activities which included participating in the animal antimicrobial webinar in July. In conjunction with the U.S. Aquaculture Society, North Central Regional Aquaculture Center and National Aquaculture Association had partnered to produce aquaculture webinars including two webinars presented by Dr. Roy Yanong, University of Florida Tropical Aquaculture Laboratory, were focused on what is farm biosecurity and how to write a farm biosecurity plan. These webinars are on the NAA website <http://thenaa.net/webinars>. There will also be a webinar on Veterinary Feed Directives by Dr. Pat Gaunt, Mississippi State University. The NAA will additionally be involved in the upcoming USDA (November 1) webinar on gaps in aquatic animal health for which the NAA has provided its perspectives. He briefly went over the NAA's recommendations for the new Administration.

The complete text of this presentation is included at the end of the report.

Update on the National Oceanic and Atmospheric Administration's Aquaculture Activities

Mike Rust, NOAA

Dr. Rust was unable to attend in person and joined the meeting video remote.

Rust confirmed that National Oceanic and Atmospheric Administration (NOAA) will be hiring a veterinarian in the next 6–8 weeks to cover aquaculture issues. The veterinarian will be shared with NOAA's seafood inspection program. He proceeded to lay out the overview of fish /shellfish health management rules developed for offshore aquaculture in the Gulf of Mexico and the need for such in other regions such as California. Other Fisheries Management Councils are looking to develop similar plans to what the Gulf of Mexico Council developed to regulate aquaculture in their regions. NOAA expects that rules will also be needed for offshore aquaculture in the Western Pacific and Northeast areas as they develop their own offshore aquaculture amendments in the not too distant future. They have been developing best management practices for industry and are working with USDA-APHIS to develop guidance for veterinary care in the exclusive economic zone (EEZ). Rules cover animal health plans for permittees, monitoring diseases and for the movement of animals however, NOAA recognizes that the veterinary community can help improve our ability to regulate and manage the developing marine aquaculture industry (fish and shellfish). NOAA needs tools to predict and ensure resource protection of wild stocks (e.g. farm to wild transfer) and protected resources (required under Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA)), as well as protect farms from farm to farm or wild to farm disease transfer. NOAA looks to employ their internal science assets to assist in this area including models for risk, risk impact, and farm management, but they cannot do this alone and need the help from the veterinary community, other agencies (especially USDA-APHIS), industry and others. In addition to risk prediction models, NOAA aims to invest in science to develop technology so that the industry can not only be economically successful but also environmentally and socially successful. He mentioned that NOAA's science centers might also be able to provide technical assistance and/or facilities to partner with non-NOAA researchers. He named the different grant programs that NOAA has that could support non-NOAA researchers which includes the Saltonstall-Kennedy, Sea Grant and the Small Business Innovative funding programs. There are opportunities for universities, diagnostic laboratories etc. to work with NOAA laboratories via cooperative research and development agreements. He concluded with the information on NOAA's first Aquaculture Science Review that was completed this summer and anticipates that this will result in a strategic action plan for funding aquaculture science in the near future.

Update on the U.S. Fish and Wildlife Service activities as They Pertain to Aquatic Animal Health

Joel Bader, USFWS

Dr. Bader was unable to attend the meeting in person and presented his report via video remote.

Dr. Bader reported on:

- a. Salamander chytrid fungus (Bsal – *Batrachochytrium salamandrivoranas*) and that the interim rule had been published. U.S. Fish and Wildlife Service (USFWS) is relying on the injurious wildlife listing authority of the Lacey Act to prevent the introduction of this fungus into the U.S. They will be addressing public and peer review of the interim rule and anticipates to complete and publish the final rule in the next fiscal year.
- b. Categorical exclusion under National Environmental Policy Act (NEPA) for injurious wildlife listing under the Lacey Act

This took effect in October 2015 which allows the Service to act more efficiently by expediting the environmental review process for proposals that do not require more resource-intensive Environmental Assessments (EAs) or Environmental Impact Statements (EISs).

c. Multi-species propose rule

Branch of Aquatic Invasive Species (BAIS) published the proposed rule listing ten freshwater fish. The Service completed reviewing peer and public comments on the proposed rule, EA and economic analysis and has prepared the final which was published in October 2016 and will take effect in January 2017.

d. Legislation modernizing injurious wildlife listings

Previous congresses have introduced bills that would amend the injurious wildlife provisions of the Lacey Act (please see last year's committee report for Dr. Bader). In 2016, Representative Slaughter (NY) introduced revising a revised version of the previous session's bill under essentially the same name "Invasive Fish and Wildlife Prevention Act of 2016" (H.R.5895) which was referred to the Subcommittee on Federal Lands. Senator Gillibrand (NY) introduced the Senate version (S.3278) in 2016, which was referred to the Committee on Environment and Public Works. No further actions have occurred.

He also briefly mentioned risk screenings and *Batrachochytrium dendrobatidis* (Bd) or amphibian chytrid fungus. With regards to the former, additional details are provided in the report that he provided including efforts the Service have undertaken to address concern by various stakeholders. With regards to Bd, numerous comments have been received and reviewed by the Service but no decision has been made as yet to pursue a final rule.

The complete text of this presentation is included at the end of the report.

Development and Expansion of Marine Aquaculture in North Carolina: Challenges and Opportunities

Chuck Weirich, North Carolina Sea Grant

Although New England has historically been the center of cultured shellfish production on the East Coast, in recent years the industry is expanding in other states along the Atlantic seaboard. Most notable is Virginia, which has undergone phenomenal growth in its shellfish aquaculture industry over the last decade. In 2014, the farm gate value of clams and oysters cultivated in Virginia waters was \$56 million, supporting over 500 jobs. Despite sharing a common border and similar coastal resources, growth of the shellfish aquaculture industry has been minimal to date with a 2014 farm gate value of only \$532,000.

However, over the course of the last several years, interest in shellfish aquaculture – especially water column farming of oysters has increased greatly in North Carolina, which has been reflected by a steady increase in leases and acreage devoted to this practice. In addition, at the urging of the North Carolina Shellfish Growers Association, the North Carolina General Assembly has begun easing regulatory barriers to entry, state marine institutions are devoting more resources towards research to improve industry efficiencies and output, technology transfer and training efforts have been increased, and strategies are being developed to expand markets for shellfish.

This presentation will provide an overview of the present shellfish aquaculture industry in North Carolina including production practices that are employed. Challenges facing the industry including regulations, user conflict and public perception, seed supply, biofouling of gear, and disease issues will be discussed. In addition, the growth potential of the industry will be examined

The presentation can be found on the Committee page at www.usaha.org.

International Public Health Impact of Invalid *Salmonella* Laboratory Testing Methods

Megin Nichols, U.S. Centers for Disease Control and Prevention

Dr. Nichols provided a report on CDC's investigation into human turtle-associated *Salmonella* outbreaks in the US and internationally and how these investigations have impacted the export of turtles from the US as well as the way laboratory testing is conducted for exportation and health certificate purposes.

Aquatic Pathogen Testing in NAHLN Laboratories

Christina Loiacono, USDA

Dr. Loiacono provided the history as well as the founding principles and feature of National Animal Health Laboratory Network (NAHLN). She provided a brief outline on the requirements and qualification

to become a NAHLN laboratory and provided information in the restructuring of the NANLN laboratories including the different laboratory levels (1 to 3, affiliate, private and reference laboratories). She described the NAHLN conducting aquatic pathogen surveillance testing and the results of the number of tests completed by these laboratories for infectious salmon anemia and viral hemorrhagic septicemia. She also provided information about the upcoming proficiency testing for the three aquatic pathogens: Infectious salmon anemia virus, Viral hemorrhagic septicemia virus, and Spring Viremia of Carp virus. NAHLN will be working with the aquaculture community to decide which additional pathogens to be added to the three that are currently on the list. It will offer Quality Management System training for both member and prospective NAHLN laboratory members.

The presentation can be found on the Committee page at www.usaha.org.

Overview of Emerging Animal Disease Preparedness and Response Plans

Lee Ann Thomas, USDA-APHIS-VS

Dr. Thomas provided the background information about the emerging animal disease preparedness and response plans including the purpose and the definition of the emerging disease. This is not a response plan for all diseases, but is for new or re-emerging diseases. It is based on a concept paper published in 2014 and has four goals which are 1.) Respond quickly to minimize the impact of disease events, 2.) Communicate findings and inform stakeholders, 3.) Detect, identify, and characterize disease events and, 4.) Undertake global awareness, assessment, and preparedness. It defines four risk levels of emerging disease, as well as the factors used to make preliminary assignments of diseases to risk levels and define roles of the various components which are risk identification team, Veterinary Service leaders, states and industry. It also outlines the response options to be undertaken, depending on the epidemiology of the emerging disease for both international and domestic diseases. The USDA is soliciting comments that are due by November 1, 2016. This feedback will be use to update and finalize the plan https://www.aphis.usda.gov/animal_health/downloads/emerging-dis-framework-plan.pdf

The presentation can be found on the Committee page at www.usaha.org.

U.S. National List of Reportable Animal Diseases (NLRAD)

Dana Cole, USDA-APHIS-VS

Dr. Cole made the presentation as Dr. Theresa Boyle who was slated to give presentation was unable to attend the meeting.

She defined what National List of Reportable Animal Diseases (NLRAD) is, it's function and a brief history of NLRAD. The framework for the NLRAD was born from concept papers from five working groups. This framework includes a current U.S. list of reportable animal diseases, laboratory case classification and reporting requirements, structure and procedures, list maintenance, communication, data management, and information release. The list contains notifiable diseases and conditions and monitored diseases (World Organisation for Animal Health (OIE) summary reported diseases). She also described how the NLRAD fits with the Comprehensive and Integrated Surveillance effort. Once the NLRAD framework is finalized, a proposed rule will be drafted and published for comment before the final rule is published. She emphasized that the list is meant to be dynamic.

The presentation can be found on the Committee page at www.usaha.org.

Efforts of the Fish Health Section to Develop Quality Assurance/Quality Control for Interested Fish Health Laboratories

Chris Wilson, American Fisheries Society Dr. Wilson provided a brief outline of the efforts of the Fish Health Section (FHS) to develop quality assurance (QA) quality control (QC) for interested large and small fish health inspection and diagnostic testing laboratories that are not accredited laboratories. This program is meant to assist laboratories with development of their quality management systems and act as a bridge towards eventual third party accreditation e.g. American Association of Veterinary Laboratory Diagnosticians (AAVLD) or International Organization for Standardization (ISO) 17025. It has a tiered system (I-III) and includes both public and private facilities and would be administered through the American Fisheries Society.

Committee Business:

As part of Dr. Wilson's presentation, two resolutions were presented to the committee for consideration. The first resolution was seeking USDA support for to provide quality assurance (QA)

quality control (QC) training at regional/national fish health meetings. The motion for this resolution was made by Mr. Bill Keleher and seconded by Dr. Kevin Snekvik. After discussion, the motion passed without opposition.

The second draft resolution stemming from Dr. Wilson's presentation was with regard to test panel development by the USDA for the unaccredited laboratories. The resolution was discussed but no motion was made.

The third resolution was one from the Committee on Infectious Diseases of Horses (COIHD) which was regarding laboratory approval for regulated diseases. After discussion, the committee decided to table this resolution with instruction which was that the Committee on Aquaculture appreciates the opportunity to review the resolution but is unable to support the resolution at this time. An email has been sent to the COIHD in this regards.

Based on the discussion on the latter two resolutions, it was decided that there is a need to revisit role and support of non-accredited laboratories which may be a topic for next year's committee meeting. There will be additional discussion prior to next year's meeting via teleconference,

Dr. Hartman carried the message to the committee that Dr. Stan Brunson was looking for a volunteer to replace Dr. Jerry Heidel who has been coordinating the National Animal Health Reporting System (NAHRS) reporting. Dr. Heidel has retired. An email request will be sent to all committee members.

A brief discussion was made on the current structure of the committee meeting. Those in attendance were appreciative of producer input and suggested reaching out to Hubbs-SeaWorld Research Institute if they would be willing to attend and present at next year's committee meeting which is in San Diego.

The meeting was adjourned at 6:15 p.m.

AQUATIC ANIMAL HEALTH: CRITICAL TO U.S. AQUACULTURE

Paul Zajicek

National Aquaculture Association

The U.S. Department of Agriculture reports approximately 3,000 farmers with a farm-gate income of \$1.4 billion. Hidden in those numbers is the huge diversity of species, hybrids of species and life forms (eggs, larvae, fingerlings, stockers, broodstock or edible) grown within a diversity of production systems and locations. Species may include freshwater or marine fish, crustaceans, amphibians, reptiles, and a variety of invertebrates (e.g., hard and soft corals). Production systems may include indoor or outdoor earthen or lined ponds, net pens or cages, concrete, glass or plastic tanks, earthen, lined or concrete raceways, and bottom, mesh bag or suspended shellfish culture within which freshwater or marine production water can be of single-pass or multiple use. Farm locations are equally diverse to include temperate to sub-tropical climates, mountainous to desert environments, or public or private waterbodies. Markets for the live animals produced in these systems include food (i.e., seafood), public and private stocking for recreational fishing or species recovery, recreational fishing bait, freshwater and marine aquariums, water gardens, and biological control.

The fundamental goal of all aquaculturists is healthy animals to maximize production and reduce input costs and crop loss. The diversity of species, production systems, locations and markets creates a complex matrix of aquatic animal health management considerations and no simple prescriptions to achieve and maintain healthy animals or satisfy international, federal, state or local regulations focused on specific or general pathogens, production animals, or drugs and chemicals.

The National Aquaculture Association supports:

- U.S. Department of Agriculture as the lead agency for aquatic animal and pathogen regulation.
- National implementation of the Commercial Aquaculture Health Program Standards and the National Aquatic Animal Health Plan
- Increased federal, state and private funding for:
 - aquatic animal health research;
 - drug, chemical, vaccine and alternatives to antimicrobial drugs research and approval; and,
 - aquatic animal veterinary education programs.
- Adoption of a risk-based approach to emerging diseases that objectively analyses animal, environment and human health risks and the timely adoption of diagnostic methods or testing standards appropriate to the pathogen, species, and production system.

U.S. Fish and Wildlife Service Update
Joel Bader
Aquatic Animal Health Aquaculture and Technology

General Talking Points:

- Invasive species are estimated to cost Americans tens of billions of dollars annually in damages. Examples of problematic species include Asian carps, large constrictor snakes, lionfish, and nutria; all are highly visible and costly examples that have made recent headlines. Other invasive species may be less conspicuous but are just as damaging.
- We recognize the need for a thriving aquaculture industry that helps feed our people and supports our nation's economy, and we know your industry is committed to developing and using environmentally sustainable practices. We also recognize the value of strong partnerships.
- The Service is working within its authorities and with partners to identify and address the highest threats more efficiently. We need a comprehensive approach. Both voluntary and regulatory improvements, with improved links between the public and private sectors, are needed.

Categorical Exclusion (CatEx) Under National Environmental Policy Act (NEPA) for the Injurious Wildlife Listing Under the Lacey Act:

- The Service's new categorical exclusion under NEPA for future injurious wildlife listings took effect on October 29, 2015. The categorical exclusion (or CatEx) will allow the Service to list species more efficiently by allowing the Service to expedite the environmental review process for proposals that typically do not require more resource-intensive environmental assessments (EAs) or Environmental Impact Statements (EISs).
- The Service, coordinating through the Department of the Interior, followed all protocols to apply for and receive approval from the Council on Environmental Quality for the new categorical exclusion under NEPA.
- For each listing determination, the Service must still meet requirements of all applicable statutes, executive orders, and regulations, and we will still evaluate each species for injuriousness. This means that we will still prepare the evaluation of the species as injurious and an economic analysis, but we may not need to prepare an EA or EIS.

Multi-species proposed rule:

- On October 30, 2015, BAIS published the proposed rule to list ten freshwater fish (Amur sleeper, crucian carp, Eurasian minnow, European perch, Nile perch, Prussian carp, roach, stone moroko, wels catfish, and zander) and one crayfish (common yabby) as injurious species.
- After reviewing the peer review and public comments on the proposed rule, environmental assessment, and economic analysis, the Service prepared the final rule.
- The final rule published in October 2016 and takes effect on January 2017. There were no changes to the final determinations for the 11 species from the proposed rule.
- All 11 species have a high climate match in parts of the United States, a history of invasiveness outside their native ranges, and, with one exception (zander in Spiritwood Lake, North Dakota), are not currently found in U.S. ecosystems. We used Ecological Risk Screening Summaries to obtain climate-matching and other information. We also used extensive other publications.
- This is the first rule we promulgated since we signed a Memorandum of Understanding with Pet Industry Joint Advisory Council (PIJAC) and Association of Fish and Wildlife Agencies (AFWA) in 2013, which outlines an agreement regarding the voluntary refrain from importation of species not yet in trade in the United States.

Legislation Modernizing Injurious Wildlife Listings:

- While control and management of invasive species is vital, prevention is widely viewed as the most cost-effective means to avoid and minimize harm. The injurious wildlife provision of the Lacey Act is one of the strongest tools available to the Department of the Interior to manage the risks of invasive species within the trade pathway.

- Previous Congresses have introduced bills that would amend the injurious wildlife provisions of the Lacey Act, such as S. 1153 in the Senate and H.R. 996 in the House of Representatives in the 113th Congress. Earlier sessions of Congress have also introduced legislation, showing the interest by Members in this issue.
- S. 1153 would have significantly amended the injurious wildlife listing process, and would have given the Secretary of the Interior additional authorities to prevent the importation of, and interstate commerce in, wildlife pathogens and harmful parasites. In testifying about the bill at a hearing on July 16, 2014, Fish and Wildlife Service Deputy Director Guertin indicated support for the intent and purpose of the bill. However, he raised concerns about provisions that would undermine the Service's ability to implement and enforce the law's prohibitions on importation and interstate transport of injurious wildlife, such as a broadening of exemptions under newly created Injurious I and II categories for listing wildlife.
- On July 14, 2016, Representative Slaughter (NY) introduced revised a revised version of the previous session's bill under essentially the same name "Invasive Fish and Wildlife Prevention Act of 2016" (H.R.5895). It was referred to the Subcommittee on Federal Lands. On the same day, Senator Gillibrand (NY) introduced the Senate version (S.3278). It was referred to the Committee on Environment and Public Works. No further actions have occurred.

Bsal (salamander chytrid fungus):

- An emerging fungal disease with the potential to lethally affect native salamanders may enter the United States through ongoing importations of salamanders, according to a paper that published in Science in October 2014.
- The fungus (*Batrachochytrium salamandrivorans* or "Bsal") is related to the already widespread and fatal amphibian chytrid fungus known as Bd. Bsal is not yet known to be present in the United States but has devastated some European salamander populations. Bsal has also been shown through testing to be lethal to other salamander species, including at least 10 native U.S. species, and it is likely to affect more.
- Our country has the highest biodiversity of salamanders on the planet, and salamanders form a crucial link in native ecosystems. The Service is the Federal agency best positioned to prevent its introduction into the United States, relying on its injurious wildlife listing authority under the Lacey Act.
- The Service made it a high priority to prevent this fungus reaching the United States. In late 2014, the Service convened a team of its own experts to evaluate which salamander species should be listed as injurious wildlife to prevent the risk of Bsal's introduction into the United States and expedited the effective date by publishing an interim rule that took effect on January 28, 2016. We determined that 201 of the world's approximately 681 known salamander species are likely to be carriers of Bsal. This includes 67 of the 190 U.S. native species.
- The Service is addressing the public and peer review comments and expects to complete and publish a final rule in the next fiscal year. The final rule may remain the same or may change the number of species listed, whether dead salamanders are not considered injurious, and a few other variables. However, the interim rule remains in effect until the final rule takes effect.
- The comment period on this rule is closed.

Bd (amphibian chytrid fungus):

- The Service received a petition in 2009 from the Defenders of Wildlife to list amphibians as injurious wildlife unless they are certified as free of *Batrachochytrium dendrobatidis* (amphibian chytrid fungus). The Service published a Notice of Inquiry in the Federal Register on September 17, 2010, to announce a request for information on the petition. The public information period closed on December 16, 2010.
- The Service received approximately 450 comments and has reviewed the information, as well as other information we acquired. No decision has yet been made to pursue a rule.

Risk Screening:

- The Service has developed three rapid screening tools, known as Ecological Risk Screening Summaries, Fish Risk Assessment Model, and Risk Assessment Mapping Program to help determine which species pose a high, low, or uncertain risk of invasion. This tool allows us to use the most current scientific methods and databases to quickly gather and more efficiently analyze data.
- We have already performed hundreds of ecological risk screenings on aquatic animal species. To be transparent, the Service is providing the public with some of the summaries that synthesize the results of the screenings. Some of the reports are available on our website (https://www.fws.gov/injuriouswildlife/Injurious_prevention.html), which was created to serve a partnership with industry and the Association of Fish and Wildlife Agencies relating to animals not known to be imported. I will discuss this partnership MOU below. An additional website was created that includes summaries for species being imported (https://www.fws.gov/fisheries/ANS/species_erss_reports.html). We plan to post more reports as they are finalized.
- As just mentioned, many of these reports are for species that are not yet in trade or in the wild in the United States. If importers are contemplating using these species, these reports can provide the live-animal industry and the public with technical assistance as to whether the species would pose a high or low risk of invasiveness. Thus, industry could make an informed decision to refrain from initiating the importation of high-risk species. Knowledge of both low- and high-risk species will provide industry, States, and consumers with valuable knowledge for deciding which species are more responsible choices to acquire and use. In addition, State natural resource and conservation agencies can use the summaries to aid their management decisions for potentially invasive species and to work with industry on their own agreements for risky species in their jurisdictions.
- We know that the National Aquaculture Association has expressed concern with some aspects of our screening process. Based on those concerns, we completed peer review per OMB policies for influential science in August 2014. We also revised the Standard Operating Procedures for preparing ERSSs, and that is being posted on the Service's Injurious Wildlife website. The revised SOP is more detailed and may alleviate some concerns.
- In June 2013, the Service signed a Memorandum of Understanding with the Pet Industry Joint Advisory Council (PIJAC) and Association of Fish and Wildlife Agencies (AFWA) to help prevent future ecological invasions caused by trade in live animals. We expect other parties to join the MOU.
- The MOU focuses on aquatic, nonnative species not yet in trade in the U.S. and, therefore, should not affect the current economic status of the trade industry. The Service will provide technical assistance to the industry characterizing imported aquatic animals with their risk potential as invasive species. We also welcome risk assessment for particular species of concern from partners and stakeholders.
- The Service is working with States, industry, and others through the Invasive Species Committee of the Association of Fish and Wildlife Agencies. Given numerous requests from aquacultural interests to States regarding the potential importation of African Longfin Eel (*Anguilla mossambica*), this committee is currently evaluating this species.

FYI ONLY:

Large Constrictor Snake final rule litigation:

- In 2010, BAIS published a proposed rule to list nine species of large constrictor snakes as injurious species. In 2012, four species were listed (Burmese and two other pythons, plus the yellow anaconda). In December 2013, the United States Association of Reptile Keepers (USARK) filed a lawsuit against the Department of the Interior for various challenges, including their assertion that the authorizing statute does not give the Department the authority to prohibit interstate transportation (only importation),
- In 2014, we reopened the comment period on the five remaining constrictor snakes (reticulated python, green anaconda, Beni anaconda, DeSchauensee's anaconda, and boa constrictor). In

March 2015, we published the final rule to list the reticulated python and the three anacondas, but withdrew the proposal to list the boa.

- When the second final rule published, the plaintiffs (USARK) for the lawsuit against the first final rule filed an amendment to add the four newly listed species to their challenge. On May 12, 2015, the U.S. District Court for the District of Columbia granted USARK's motion for a preliminary injunction, finding that the plaintiffs were likely to prevail on the merits of the case that the Service lacks authority to prohibit interstate transport of species listed as injurious wildlife under Title 18 of the Lacey Act.
- The Department of Justice appealed on our behalf. The appeal was heard in the D.C. Circuit Court on April 1, 2016. The court's decision is pending.
- In the meantime, specific members of USARK may transport two species of large constrictors listed in 2015, the reticulated python and green anaconda, across state lines in the Continental U.S. except into Florida and Texas.
- The Service has prioritized completion of other injurious wildlife evaluations at this time, such as salamander chytrid fungus, because of the goal of preventing that fungus's entry into the United States.