



A Message from your AERF President Jim Schmidt

Your AERF Board of Directors met for their Annual Meeting on November 3rd in Orlando FL. I am pleased to report that Tyler Koschnick (SePRO) will be transitioning to AERF President in 2017, and Gerald Adrian accepted the Board's nomination as our new Vice President. In accordance with our Bylaws our officers serve 2 year terms. Our "Founding Father", Richard Hinterman has graciously agreed to continue on as Treasurer of the organization. We thank him for his 20 years of successful service on the Board. I am fully confident the AERF remains under strong leadership with these new and returning Officers and Directors, as well as the wise guidance and efforts of Carlton Layne, our Executive Director.

Since my term expires at the end of 2016, I do want to express my sincere appreciation to the Board for allowing me to serve these past two years as a non-voting, "appointed" Officer, due to my affiliation with a Gold Sponsor expiring upon my retirement in April 2015. Personally, this has provided me a unique and welcome opportunity to remain engaged with the industry, friends and colleagues I've established relationships with and respect for during my 41 years in the aquatic industry. As Past President, I will do my best to fulfill my obligation to serve on the Executive Committee. This includes my commitment to AERF to complete some unfinished business from my term as President.

As indicated in previous AERF Newsletter reports, considerable attention these past two years was focused upon organizing and updating how we run the Foundation. This has included updating and improving our bylaws, budgeting process, sponsorship tracking and website plus drafting an operations manual. All of these internal "business" functions were targeted to increase our efficiencies so we can place greater emphasis on our Mission, Vision, Goals and Objectives. Our Strategic Planning session held last spring provided insight into the directions to be taken by the AERF in the years ahead. As a qualified 501(c)(3) non-profit organization, incorporated within the State of Michigan, we are obligated to ensure your donations are directed towards our Mission: *"The Aquatic Ecosystem Restoration Foundation is committed to sustainable water resources through the science of aquatic ecosystem management in collaboration with industry, academia, government and other stakeholders."*

In accordance with our Bylaws, the AERF is run as a "directorship", governed by appointed Directors from our Gold Sponsors. There are no "restrictions" on who can be a Gold Sponsor other than a qualifying \$15,000 (or higher donation). Although these donors include a number of competing companies, their appointed representatives and management recognize the need for and the value of channeling their resources through the AERF towards worthwhile research, education and outreach programs that will "generically" benefit and advance the science of aquatic plant management. Your Board welcomes input and ideas from all donors, as they recognize that it's only a matter of time when challenges and questions that arise locally or regionally may become matters of national concern. Therefore, communication is encouraged from our entire constituency.

Your Board prepared an aggressive preliminary 2017 budget at our Nov. Annual Meeting. This proposed budget is pending approval or modification at our Mar. 2, 2017 Board Meeting, following the MAPMS Conference in Milwaukee. Many of the worthwhile projects and efforts we've funded in the past have proven beneficial with increasing value towards our Mission. We are committed to continue these. Other priority initiatives requiring additional funding are proposed, plus we reserve funds for special requests from our constituency. Please note that as a part of our organizational efforts, we now require



affiliated organizations and sponsors to submit a support request form. This is accessible on our website www.aquatics.org under the Research & Education tab (Event Support) <http://aquatics.org/eventsupport.pdf> Similarly, we have had a request form for AERF Symposia under <http://www.aquatics.org/symposia.html> These documents are to assist you with providing the detail needed to help the AERF expedite its review and approval process. Thank you for your cooperation.

As noted above, the AERF will requires a strong financial commitment from our sponsors to support proposed increased expenditures in research, education and outreach. Budget decisions will be based upon our projected sponsorship income at our next meeting, so please consider donating before the end of Feb., 2017. The AERF Board agreed to send out their 2017 donation request mailing early in the 4th quarter of 2016. Thus far, we are very encouraged by the response received from new and renewed sponsors. We especially appreciate those who have increased their sponsorship levels. Thank you to those who have responded, as well as those to plan to do so in 2017. We ask everyone to consider increasing their level of Sponsorship in 2017. For your added convenience, you can now donate online utilizing a PayPal account.

Happy Holidays to all, and best wishes for a safe, healthy and successful 2017.

Jim Schmidt
AERF President

Support AERF by Shopping the Amazon Smile Program

AmazonSmile is a website operated by Amazon that lets customers enjoy the same wide selection of products, low prices, and convenient shopping features as on Amazon.com. The difference is that when customers shop on AmazonSmile (smile.amazon.com), the AmazonSmile Foundation will donate 0.5% of the price of eligible purchases to the charitable organizations selected by customers.

When you first visit the website, login to your usual amazon account, and select Aquatic Ecosystem Restoration Foundation from the list of registered charities. Then shop as normal. Your account, wish lists and shipping information are all there—it's a mirror of the regular Amazon site, with the same products and prices. The only difference is when you shop on smile.amazon.com, you are also supporting the AERF.



Make your Donations and Sponsorship Payments Using PayPal

We have established a PayPal account for donations and annual sponsorship payments, for those who prefer to pay by credit card. Payments may be made through our website, or directly with Carlton, who has been equipped with a card reader.



Where Things Stand Carlton Layne

As we ease into 2017 and I reflect on the happenings in 2016, I find that I do have more **hope** than usual that positive **change** actually has a chance next year.

Since 2014, the Waters of the United States (WOTUS) rule published jointly by the Environmental Protection Agency (EPA) and the Army Corps of Engineers (CoE) has taken much of the AERF's time and treasure. Most of my travel and speaking has been on this topic and the way it will drastically affect NPDES permitting if implemented in the form of the Final Rule which was to have been effective August 29, 2015. Currently the fate of the Rule is in the hands of the 6th Circuit Court of Appeals. Lawsuits from 31 states have been consolidated into one case and the national injunction prohibiting the implementation of the Rule remains in force. The Court has received briefs and will schedule a hearing in March or April. As many of you know, I spent thirty years with the EPA in the pesticide regulation and enforcement arena. It has been a major disappointment to see how my old agency has managed the evolution of this Rule.

Jim Skillen, then with RISE, came across a draft of this rule as early as 2005 or 2006 which indicated for the first time that EPA and the CoE were considering a joint action to redefine waters of the United States. Seen by the Agencies as a means to harmonize the definition of WOTUS, it allegedly reflected the definition in use by the CoE at the time. So it was thought the Rule would be welcomed by the regulated community as a means to standardize the definition across all federal agencies and perhaps even reduce the amount of Clean Water Act litigation. The draft proposal was tabled as the NPDES litigation worked its way through the courts. We thought the Rule had died, but nay nay. It surfaced in 2014 in much the same form as originally revealed all those years ago. EPA and the CoE were timing the initial official publication of the Rule well into the implementation of the NPDES Pesticides General Permit. The NPDES Pesticides General Permit has completed its first five-year cycle with no major adverse impacts on aquatic plant management activities, but the implementation of the WOTUS Rule promised to change all of that.

The EPA has been asserting that the WOTUS Rule will have no impact on agriculture and the Clean Water Act exemptions will remain intact. The exemptions referenced have to do with residues in storm water runoff from agricultural fields and with residues in irrigation return water, and indeed those exemptions will remain in place because the statute will remain unchanged. The EPA and CoE have made an end run and have changed the definition of WOTUS without asking Congress to amend the definition as it appears in the Clean Water Act. In fact, and notwithstanding past rulings of the United States Supreme Court on the subject, the CoE has indeed been applying the proposed definition to its work all along. I have acquired official CoE correspondence which resulted from 2014 inspections of farmland in both Tennessee and Mississippi that declared evidence of storm water runoff to constitute ephemeral streams and thus are to be considered waters of the United States. Henceforth the property owners need Section 404 dredge and fill permits to disturb those areas. No additional impact on agriculture? Really? These are only two examples I have run across incidentally. How many more would a Freedom of Information Request reveal?

To be clear – The Aquatic Ecosystem Restoration Foundation supports the protection of waters of the United States and the waters of the states. But that protection needs to be implemented legally and fairly and must be based on sound science and not political whim.

Can relief be at hand? Several sources have indicated that the WOTUS Rule has been identified by President-Elect Trump's transition team as among the top five rules or regulations to be rolled back and eliminated in the first 100 days of the incoming administration. Mr. Scott Pruitt, the current Oklahoma Attorney General and EPA Administrator nominee by President-elect Trump, would likely support such a move. General Pruitt is currently the co-chief litigator in the aforementioned WOTUS lawsuit before the 6th Circuit. If confirmed, which will likely be an uphill battle given the opposition mounting against his appointment, General Pruitt would find himself going from plaintiff to defendant in one fell swoop – an irony worthy of O Henry to be sure. The details of the elimination of the WOTUS Rule are complicated by the litigation, but at least it appears that some progress is in the offing. The WOTUS definition is admittedly in real need of updating, but it should be done the right way. Hopefully the new administration will start the process over and give more than a passing consideration of the near million comments made on the proposed WOTUS rule in 2014.

As for the NPDES Pesticide General Permit rule, it exists because of a 6th Circuit Order resulting from litigation. It would therefore literally take an Act of Congress to reverse that decision. Bills to remove the NPDES permitting requirement for the legal use of pesticides regulated under the Federal Insecticide, Fungicide, and Rodenticide Act, as Amended (FIFRA) have been introduced in the past three sessions of Congress, but never made it past the Senate under the threat of a presidential veto. We'll have to see if Representative Gibbs will again introduce his bill in the House.

The AERF supports the regulation of pesticide use in, near and over waters of the United States, but believes that the FIFRA is the proper venue. The additional NPDES requirement simply adds unnecessary time, recordkeeping and expense to aquatic plant management and mosquito control activities without any documentable additional protection of human health or the environment.

AERF will be monitoring the happenings in Washington and will keep the aquatic plant management community informed. Please consider becoming an AERF sponsor to help us facilitate these activities and all that we do on your behalf. Remember that AERF is a 501(3)(c) nonprofit foundation and your contributions are tax deductible.

Dust Masks and OSHA Regulations

David Petty

NDR Research

The Occupational Safety and Health Administration (OSHA) categorizes dust masks (filtering facepieces) as negative-pressure respirators, and if their use is required by product label or safety standards, must comply with all the requirements of a canister-style respirator, including fit testing.

Any company utilizing respirators must comply with the following procedures:

- A written respirator program, which covers all procedures to meet the OSHA requirements.
- A written hazard evaluation, which determines the hazards faced on the job, and the rationale behind the selection of particular respirators.
- Perform a medical evaluation and annual medical check by a physician or licensed medical professional for all employees using respirators.
- Formal annual fit testing by a qualified person utilizing Osha-approved methodology.
- Documented record keeping of all the above, as well as training in the use, maintenance, cleaning and seal checking of respirators.
- Periodic evaluation of the procedures being used.

Fit testing for dust mask respirators is done through the qualitative methodology, where the user's ability to sense an odor or taste from an approved chemical is tested under controlled conditions. Note that the regulations require that fit testing be performed for each brand and model of mask used.

As surprising as this probably is to many people, it has been well documented in OSHA records and responses to inquiries posted online. The full regulation for the use of respirators (29CFR 1910.134 Respiratory Protection) can be found at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=12716.

PLMA Donations

The Professional Lake Managers' Alliance (PLMA) an Applied Biochemists, A Lonza Company's, aquatic applicator customer incentive program. It includes an option for them to donate a portion of the rebate they've earned from product purchases over the past year to the AERF, APMS and/or RISE organizations. More than \$20,000 has been given to the AERF over the years through the generosity of these program participants. These donations are requested to go towards education and outreach efforts.

The AERF recognizes these voluntary donations by adding the participants to our sponsor list at the level of their donation, or upgrading their existing level for those who are already sponsors if the PLMA donation meets the next tier. We'd like to thank everyone who participates in this program.

A Look at ESA-Listed Aquatic Species Distribution Data

Ashlea Frank

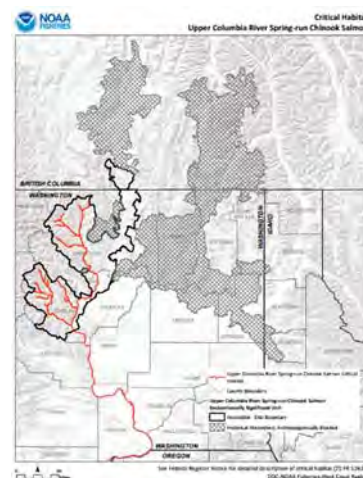
Compliance Services International

Roughly one-third of the ~1,650 species listed under the Endangered Species Act (ESA) are considered fully aquatic or associated with aquatic habitats. Fully aquatic species are those that spend their entire lives in water, such as fish or submerged plants; species that are associated with aquatic habitats include salamanders with both terrestrial and aquatic life stages, plants that are not fully submerged in water but occur in aquatic-associated habitats, and marine mammals such as sea lions, that spend time in aquatic and terrestrial environments.

The ESA, administered by the U.S Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS), is intended to protect and recover imperiled species and the ecosystems upon which they rely. Terrestrial and freshwater species fall under jurisdiction of the USFWS while NMFS is responsible for marine and anadromous fish (such as salmon). A key to adequately protecting and successfully recovering ESA-listed species is tracking where they occur in space and time and knowing what they rely upon for survival. However, there are many factors that make it difficult to know where imperiled species and their habitats occur. These include lack of funding to complete species surveys, restricted or dangerous access (such as private property and steep cliff sides) to locations where imperiled species reside, as well as isolated and very small populations that are difficult to locate and observe. There are also concerns about releasing ESA-listed species distribution data because of potential destruction or poaching. In addition, the unique habits and habitats of each species, and the mobility of many of these species, result in differences in the availability and resolution at which species distribution data are known.

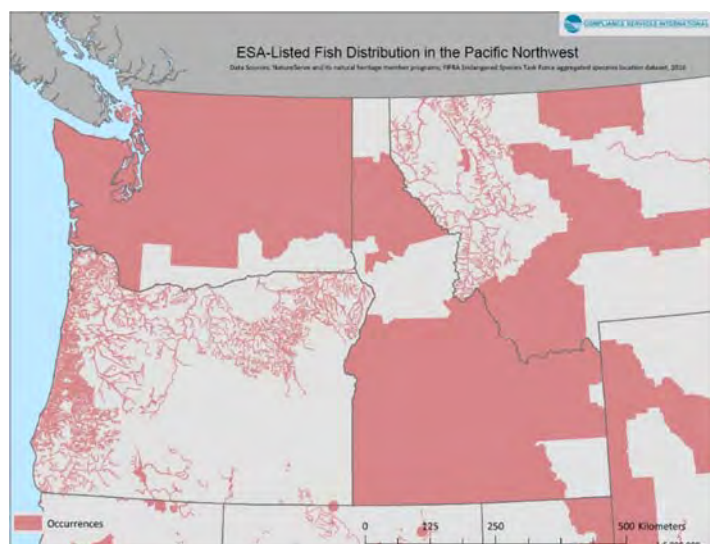
USFWS and NMFS are responsible for providing location data of ESA-listed species to the Environmental Protection Agency for use in pesticide evaluations but there are many different sources of ESA-listed species distribution information that can help to inform decisions. Additional sources include conservation organizations such as NatureServe, state agencies, citizen science organizations, and various other private and public organizations.

For some aquatic species, distribution data are well-defined and are restricted to water bodies where the species, or even distinct populations/runs, are known to occur. An example for the Upper Columbian River Spring-run Chinook Salmon from NMFS is shown to the right.



For other species where this resolution is not possible, the result is county-level,

or worse, as illustrated in the aggregation of all ESA-listed fish distribution data shown on the example map below.



When using species distribution data in any type of decision making, the better refined and higher resolution data available, the better equipped decision-makers are to put measures in place to protect ESA-listed species that work for both the species and the uses of the land or water on/in which species reside; if we do not know where ESA-listed species occur, we cannot make informed decisions about how to protect them and we cannot adequately monitor their condition or prevent unnecessary restrictions on weed or other pest control activities. Consequently, grossly depicting species or use site

locations has a great impact on how a potential “species effect” is evaluated.

Collaboration amongst all interested stakeholders including federal, state, and local agencies, conservation organizations, land/water managers, pesticide applicators and growers is needed to ensure the most refined species location data are available and put into the hands of decision makers. Efforts need to be focused on filling any gaps in species location data and refining those datasets that are very coarse in resolution. Additionally, and very importantly, local circumstances and conditions, from the knowledge and experiences of members from organizations like AERF, need to be factored into the process. We welcome feedback and input from AERF members on their local experiences or suggestions for how to improve this situation.

Ashlea Frank is a Principal Consultant at Compliance Services International (CSI) and Technical Consultant to the FIFRA Endangered Species Task Force, an industry data development task force that was established in 1997 to meet pesticide endangered species data requirements for pesticide registration and reregistration. Ashlea can be reached at afrank@complianceservices.com.

Risks and Management of Noxious Cyanobacteria

West M. Bishop, Ph.D., CLP

SePRO Research and Technology Campus

Cyanobacterial blooms are increasing throughout the United States and world. Over the recent past, some of the largest blooms ever documented have occurred such as those in Utah Lake, Lake Erie, Ohio River, Lake Okeechobee, Indian River Lagoon, and Discovery Bay (to name a small few). In part due to climatic and environmental alterations, many recent blooms have been documented to occur earlier, last longer and have increased toxicity. Spread of unique and invasive cyanobacterial species has challenged some of the generalizations regarding constraints on blooms such as nutrients, mixing, light, temperature, residence time, etc.

In recent cyanotoxin assessments, 32% of samples from lakes throughout the country had detectable microcystins as well as 39% of wadeable streams in the southeastern US (Loftin et al. 2016). Over 80% of samples from 45 utility companies also contained microcystins (Carmichael 2001). Microcystins in drinking waters have been associated with hepatic tumors and colorectal cancer (Ueno et al. 1996; Lun et al. 2002) and microcystin LR has now been classified as a possible human carcinogen (group 2B) by the World Health Organization. The USEPA, acknowledging sufficient published data regarding human health implications, has recently issued health advisories for two cyanotoxins. Concentrations are recommended to stay below 0.3 µg/L for microcystins and 0.7 µg/L for cylindrospermopsin, based on 10-day drinking water exposures for children less than six years old (USEPA 2015a, b). However, these regulations encompass only a small fraction of described toxins and entirely new classes of cyanotoxins (e.g. lyngbyaureidamides, jamaicamides, aeruginosins) are being unveiled. These have no designated risk levels or standard analytical techniques, though can have substantial and unusual human health implications (e.g. blood disorders).

To preserve the safety and usability of freshwaters, especially drinking water, SePRO developed an action threshold based algal management approach. This iterative, assessment-prescription-implementation approach is adaptable and can be tailored to a specific site. Action thresholds (e.g. cell density, toxin concentration, chlorophyll, taste/odor) are set in accordance with levels that preserve the designated management objectives for the water resource. If designated levels are exceeded, rapid implementation of an effective solution is used to target the issue (cells, toxins, etc.) and reduce to levels that elicit minimal risks. Algal management solutions are often restricted by social, political or regulatory actions. However, assessing these solutions using a risk-based system is needed due to the potential severe economic, ecological, and human health ramifications of allowing algal blooms to continue unabated.

Executive Order -- Safeguarding the Nation from the Impacts of Invasive Species

By the authority vested in me as President by the Constitution and to ensure the faithful execution of the laws of the United States of America, including the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, (16 U.S.C. 4701 et seq.), the Plant Protection Act (7 U.S.C. 7701 et seq.), the Lacey Act, as amended (18 U.S.C. 42, 16 U.S.C. 3371-3378 et seq.), the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), the Noxious Weed Control and Eradication Act of 2004 (7 U.S.C. 7781 et seq.), and other pertinent statutes, to prevent the introduction of invasive species and provide for their control, and to minimize the economic, plant, animal, ecological, and human health impacts that invasive species cause, it is hereby ordered as follows:

Section 1. Policy. It is the policy of the United States to prevent the introduction, establishment, and spread of invasive species, as well as to eradicate and control populations of invasive species that are established. Invasive species pose threats to prosperity, security, and quality of life. They have negative impacts on the environment and natural resources, agriculture and food production systems, water resources, human, animal, and plant health, infrastructure, the economy, energy, cultural resources, and military readiness. Every year, invasive species cost the United States billions of dollars in economic losses and other damages.

Of substantial growing concern are invasive species that are or may be vectors, reservoirs, and causative agents of disease, which threaten human, animal, and plant health. The introduction, establishment, and spread of invasive species create the potential for serious public health impacts, especially when considered in the context of changing climate conditions. Climate change influences the establishment, spread, and impacts of invasive species.

Executive Order 13112 of February 3, 1999 (Invasive Species), called upon executive departments and agencies to take steps to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established. Executive Order 13112 also created a coordinating body -- the Invasive Species Council, also referred to as the National Invasive Species Council -- to oversee implementation of the order, encourage proactive planning and action, develop recommendations for international cooperation, and take other steps to improve the Federal response to invasive species. Past efforts at preventing, eradicating, and controlling invasive species demonstrated that collaboration across Federal, State, local, tribal, and territorial government; stakeholders; and the private sector is critical to minimizing the spread of invasive species and that coordinated action is necessary to protect the assets and security of the United States.

This order amends Executive Order 13112 and directs actions to continue coordinated Federal prevention and control efforts related to invasive species. This order maintains the National Invasive Species Council (Council) and the Invasive Species Advisory Committee; expands the membership of the Council; clarifies the operations of the Council; incorporates considerations of human and environmental health, climate change, technological innovation, and other emerging priorities into Federal efforts to address invasive species; and strengthens coordinated, cost-efficient Federal action.

Sec. 2. Definitions. Section 1 of Executive Order 13112 is amended to read as follows:

"Section 1. Definitions. (a) 'Control' means containing, suppressing, or reducing populations of invasive species.

(b) 'Eradication' means the removal or destruction of an entire population of invasive species.

(c) 'Federal agency' means an executive department or agency, but does not include independent establishments as defined by 5 U.S.C. 104.

(d) 'Introduction' means, as a result of human activity, the intentional or unintentional escape, release, dissemination, or placement of an organism into an ecosystem to which it is not native.

(e) 'Invasive species' means, with regard to a particular ecosystem, a non-native organism whose introduction causes or is likely to cause economic or environmental harm, or harm to human, animal, or plant health.

(f) 'Non-native species' or 'alien species' means, with respect to a particular ecosystem, an organism, including its seeds, eggs, spores, or other biological material capable of propagating that species, that occurs outside of its natural range.

(g) 'Pathway' means the mechanisms and processes by which non-native species are moved, intentionally or unintentionally, into a new ecosystem.

(h) 'Prevention' means the action of stopping invasive species from being introduced or spreading into a new ecosystem.

(i) 'United States' means the 50 States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the U.S. Virgin Islands, the Commonwealth of the Northern Mariana Islands, all possessions, and the territorial sea of the United States as defined by Presidential Proclamation 5928 of December 27, 1988."

Sec. 3. Federal Agency Duties. Section 2 of Executive Order 13112 is amended to read as follows:

"Sec. 2. Federal Agency Duties. (a) Each Federal agency for which that agency's actions may affect the introduction, establishment, or spread of invasive species shall, to the extent practicable and permitted by law,

(1) identify such agency actions;

(2) subject to the availability of appropriations, and within administrative, budgetary, and jurisdictional limits, use relevant agency programs and authorities to:

(i) prevent the introduction, establishment, and spread of invasive species;

(ii) detect and respond rapidly to eradicate or control populations of invasive species in a manner that is cost-effective and minimizes human, animal, plant, and environmental health risks;

(iii) monitor invasive species populations accurately and reliably;

(iv) provide for the restoration of native species, ecosystems, and other assets that have been impacted by invasive species;

(v) conduct research on invasive species and develop and apply technologies to prevent their introduction, and provide for environmentally sound methods of eradication and control of invasive species;

(vi) promote public education and action on invasive species, their pathways, and ways to address them, with an emphasis on prevention, and early detection and rapid response;

(vii) assess and strengthen, as appropriate, policy and regulatory frameworks pertaining to the prevention, eradication, and control of invasive species and address regulatory gaps, inconsistencies, and conflicts;

(viii) coordinate with and complement similar efforts of States, territories, federally recognized American Indian tribes, Alaska Native Corporations, Native Hawaiians, local governments, nongovernmental organizations, and the private sector; and

(ix) in consultation with the Department of State and with other agencies as appropriate, coordinate with foreign governments to prevent the movement and minimize the impacts of invasive species; and

(3) refrain from authorizing, funding, or implementing actions that are likely to cause or promote the introduction, establishment, or spread of invasive species in the United States unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.

(c) Federal agencies shall pursue the duties set forth in this section in coordination, to the extent practicable, with other member agencies of the Council and staff, consistent with the National Invasive Species Council Management Plan, and in cooperation with State, local, tribal, and territorial governments, and stakeholders, as appropriate, and in consultation with the Department of State when Federal agencies are working with international organizations and foreign nations.

(d) Federal agencies that are members of the Council, and Federal interagency bodies working on issues relevant to the prevention, eradication, and control of invasive species, shall provide the Council with annual information on actions taken that implement these duties and identify barriers to advancing priority actions.

(e) To the extent practicable, Federal agencies shall also expand the use of new and existing technologies and practices; develop, share, and utilize similar metrics and standards, methodologies, and databases and, where relevant, platforms for monitoring invasive species; and, facilitate the interoperability of information systems, open data, data analytics, predictive modeling, and data reporting necessary to inform timely, science-based decision making."

Sec. 4. Emerging Priorities. Federal agencies that are members of the Council and Federal interagency bodies working on issues relevant to the prevention, eradication, and control of invasive species shall take emerging priorities into consideration, including:

(a) Federal agencies shall consider the potential public health and safety impacts of invasive species, especially those species that are vectors, reservoirs, and causative agents of disease. The Department of Health and Human Services, in coordination and consultation with relevant agencies as appropriate, shall within 1 year of this order, and as requested by the Council thereafter, provide the Office of Science and Technology Policy and the Council a report on public health impacts associated with invasive species. That report shall describe the disease, injury, immunologic, and safety impacts associated with invasive species, including any direct and indirect impacts on low-income, minority, and tribal communities.

(b) Federal agencies shall consider the impacts of climate change when working on issues relevant to the prevention, eradication, and control of invasive species, including in research and monitoring efforts, and integrate invasive species into Federal climate change coordinating frameworks and initiatives.

(c) Federal agencies shall consider opportunities to apply innovative science and technology when addressing the duties identified in section 2 of Executive Order 13112, as amended, including, but not limited to, promoting open data and data analytics; harnessing technological advances in remote sensing technologies, molecular tools, cloud computing, and predictive analytics; and using tools such as challenge prizes, citizen science, and crowdsourcing.

Sec. 5. National Invasive Species Council. Section 3 of Executive Order 13112 is amended to read as follows:

"Sec. 3. National Invasive Species Council. (a) A National Invasive Species Council (Council) is hereby established. The mission of the Council is to provide the vision and leadership to coordinate, sustain, and expand Federal efforts to safeguard the interests of the United States through the prevention, eradication, and control of invasive species, and through the restoration of ecosystems and other assets impacted by invasive species.

(b) The Council's membership shall be composed of the following officials, who may designate a senior-level representative to perform the functions of the member:

- (i) Secretary of State;
- (ii) Secretary of the Treasury;
- (iii) Secretary of Defense;
- (iv) Secretary of the Interior;
- (v) Secretary of Agriculture;
- (vi) Secretary of Commerce;
- (vii) Secretary of Health and Human Services;
- (viii) Secretary of Transportation;
- (ix) Secretary of Homeland Security;
- (x) Administrator of the National Aeronautics and Space Administration;
- (xi) Administrator of the Environmental Protection Agency;
- (xii) Administrator of the United States Agency for International Development;
- (xiii) United States Trade Representative;

(xiv) Director or Chair of the following components of the Executive Office of the President: the Office of Science and Technology Policy, the Council on Environmental Quality, and the Office of Management and Budget; and

(xv) Officials from such other departments, agencies, offices, or entities as the agencies set forth above, by consensus, deem appropriate.

(c) The Council shall be co-chaired by the Secretary of the Interior (Secretary), the Secretary of Agriculture, and the Secretary of Commerce, who shall meet quarterly or more frequently if needed, and who may designate a senior-level representative to perform the functions of the Co-Chair. The Council shall meet no less than once each year. The Secretary of the Interior shall, after consultation with the Co-Chairs, appoint an Executive Director of the Council to oversee a staff that supports the duties of the Council. Within 1 year of the date of this order, the Co-Chairs of the Council shall, with consensus of its members, complete a charter, which shall include any administrative policies and processes necessary to ensure the Council can satisfy the functions and responsibilities described in this order.

(d) The Secretary of the Interior shall maintain the current Invasive Species Advisory Committee established under the Federal Advisory Committee Act, 5 U.S.C. App., to provide information and advice for consideration by the Council. The Secretary shall, after consultation with other members of the Council, appoint members of the advisory committee who represent diverse stakeholders and who have expertise to advise the Council.

(e) Administration of the Council. The Department of the Interior shall provide funding and administrative support for the Council and the advisory committee consistent with existing authorities. To the extent permitted by law, including the Economy Act, and within existing appropriations, participating agencies may detail staff to the Department of the Interior to support the Council's efforts."

Sec. 6. Duties of the National Invasive Species Council. Section 4 of Executive Order 13112 is amended to read as follows:

"Sec. 4. Duties of the National Invasive Species Council. The Council shall provide national leadership regarding invasive species and shall:

(a) with regard to the implementation of this order, work to ensure that the Federal agency and interagency activities concerning invasive species are coordinated, complementary, cost-efficient, and effective;

(b) undertake a National Invasive Species Assessment in coordination with the U.S. Global Change Research Program's periodic national assessment, that evaluates the impact of invasive species on major U.S. assets, including food security, water resources, infrastructure, the environment, human, animal, and plant health, natural resources, cultural identity and resources, and military readiness, from ecological, social, and economic perspectives;

(c) advance national incident response, data collection, and rapid reporting capacities that build on existing frameworks and programs and strengthen early detection of and rapid response to invasive species, including those that are vectors, reservoirs, or causative agents of disease;

(d) publish an assessment by 2020 that identifies the most pressing scientific, technical, and programmatic coordination challenges to the Federal Government's capacity to prevent the introduction of invasive species, and that incorporate recommendations and priority actions to overcome these challenges into the National Invasive Species Council Management Plan, as appropriate;

(e) support and encourage the development of new technologies and practices, and promote the use of existing technologies and practices, to prevent, eradicate, and control invasive species, including those that are vectors, reservoirs, and causative agents of disease;

(f) convene annually to discuss and coordinate interagency priorities and report annually on activities and budget requirements for programs that contribute directly to the implementation of this order; and

(g) publish a National Invasive Species Council Management Plan as set forth in section 5 of this order."

Sec. 7. National Invasive Species Council Management Plan. Section 5 of Executive Order 13112 is amended to read as follows:

"Sec. 5. National Invasive Species Council Management Plan. (a) By December 31, 2019, the Council shall publish a National Invasive Species Council Management Plan (Management Plan), which shall, among other priorities identified by the Council, include actions to further the implementation of the duties of the National Invasive Species Council.

(b) The Management Plan shall recommend strategies to:

- (1) provide institutional leadership and priority setting;
- (2) achieve effective interagency coordination and cost-efficiency;
- (3) raise awareness and motivate action, including through the promotion of appropriate transparency, community-level consultation, and stakeholder outreach concerning the benefits and risks to human, animal, or plant health when controlling or eradicating an invasive species;
- (4) remove institutional and policy barriers;
- (5) assess and strengthen capacities; and
- (6) foster scientific, technical, and programmatic innovation.

(c) The Council shall evaluate the effectiveness of the Management Plan implementation and update the Plan every 3 years. The Council shall provide an annual report of its achievements to the public.

(d) Council members may complement the Management Plan with invasive species policies and plans specific to their respective agency's roles, responsibilities, and authorities."

Sec. 8. Actions of the Department of State and Department of Defense. Section 6(d) of Executive Order 13112 is amended to read as follows:

"(d) The duties of section 3(a)(2) and section 3(a)(3) of this order shall not apply to any action of the Department of State if the Secretary of State finds that exemption from such requirements is necessary for foreign policy, readiness, or national security reasons. The duties of section 3(a)(2) and section 3(a)(3) of this order shall not apply to any action of the Department of Defense if the Secretary of Defense finds that exemption from such requirements is necessary for foreign policy, readiness, or national security reasons."

Sec. 9. Obligations of the Department of Health and Human Services. A new section 6(e) of Executive Order 13112 is added to read as follows:

"(e) The requirements of this order do not affect the obligations of the Department of Health and Human Services under the Public Health Service Act or the Federal Food, Drug, and Cosmetic Act."

Sec. 10. General Provisions. (a) Nothing in this order shall be construed to impair or otherwise affect:

- (1) the authority granted by law to an executive department or agency, or the head thereof; or
- (2) the functions of the Director of the Office of Management and Budget relating to budgetary, administrative, or legislative proposals.

(b) This order shall be implemented consistent with applicable law and subject to the availability of appropriations.

(c) This order is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity by any party against the United States, its departments, agencies, or entities, its officers, employees, or agents, or any other person.

BARACK OBAMA

THE WHITE HOUSE,
December 5, 2016.

Your AERF Sponsorship is key to:

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Biology and Control of Aquatic Plants



A Best Management Practices Handbook: Third Edition

Lyn A. Gettys, William T. Haller and David G. Petty, editors

Sponsorship

The AERF respectfully requests that you consider sponsorship. AERF will continue to work on your behalf, and as a member, you will greatly benefit from our work on regulatory and research aspects of aquatic plant management. With changes in the regulatory environment now and in the future, it is essential to be involved and to support all the hard work of your AERF associates.

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The AERF Mission

The Aquatic Ecosystem Restoration Foundation is committed to sustainable water resources through the science of aquatic ecosystem management in collaboration with industry, academia, government and other stakeholders.

Strategic Goals

- Provide the public information concerning the benefits and value of conserving aquatic ecosystems including the aquatic use of herbicides and algacides in the aquatic environment.
- Provide information and resources to assist regulatory agencies and other entities making decisions that impact aquatic plant management.
- Fund research in applied aquatic plant management at major universities.

Upcoming Events

Jan 9-11	NEAPMS Portsmouth, NH
Feb 27-Mar 2	MAPMS Milwaukee, WI
Mar 13-17	WAPMS Coeur d'Alene, ID
May 8-11	Aquatic Weed Short Course Coral Springs, FL

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