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U.S. ARMY CORPS OF ENGINEERS
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CECW-CO (1130)

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS AND
DISTRICT COMMANDS, CHIEFS, OPERATIONS DIVISIONS

SUBJECT: Invasive Species Leadership Team Program Management Plan

1. The intent of this memorandum is to alert Major Subordinate Commands (MSCs) of the updates to the U.S. Army Corps of Engineers Invasive Species Leadership Team (ISLT) Program Management Plan (PgMP) which describes the USACE implementation policy for invasive species management.
2. I encourage each MSC and district to support and utilize their applicable ISLT representative for the purpose of implementing invasive species policy, bringing issues to the attention of the ISLT and the Invasive Species Management Community of Practice for assistance, implementing PgMP goals and objectives, distributing invasive species information/best management practices, and providing educational information.
3. I also encourage the use of standardized work category codes and definitions across all Civil Works operation business lines to track invasive species management expenditures including labor, contractors, and other costs more accurately. MSC and district support is critical to minimizing the spread and introduction of invasive species and imperative in reducing costs.
4. Please direct questions relating to this document to Michael Richards, Land Use Program Manager, at (202) 913-4070 or Michael.G.Richards@usace.army.mil, and Michael Greer, ISLT Chair, at (716) 879-4229 or Michael.J.Greer@usace.army.mil.

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Director of Civil Works

Encl

**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
INVASIVE SPECIES MANAGEMENT
COMMUNITY OF PRACTICE**



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EXECUTIVE SUMMARY

The Invasive Species Leadership Team (ISLT) was established by a U.S. Army Corps of Engineers (USACE) Civil Works and Contingency Operations Memorandum dated 13 July 2005 to provide oversight of the USACE Invasive Species Program.

The purpose of the ISLT Program Management Plan (PgMP) is to establish a work plan for years 2023-2027. This PgMP defines the direction that the ISLT and Invasive Species Management Community of Practice will provide for related research programs, on regional invasive species councils, and assisting USACE Headquarters (HQUSACE) in program management and implementation of the USACE Invasive Species Policy. This PgMP is needed to ensure that funds are used efficiently to meet the requirements of the National Invasive Species Management Plan (NISMP, National Invasive Species Council 2016, 2020) and the Aquatic Nuisance Species Task Force Strategic Plan (ANSTF-SP). The USACE Invasive Species Policy applies to all Civil Works programs.

Membership on the ISLT generally consists of one representative from each Major Subordinate Command (MSC)/Division Office and a representative from one of the District Offices within each MSC. The team also includes HQUSACE proponents and liaisons representing the research community from Engineer Research and Development Center (ERDC), Armed Forces Pest Management Board, and the USACE Interagency Working Group on Harmful Algal Blooms and Hypoxia Research and Control Amendments. The ISLT responsibilities include:

- Providing recommendations to HQ staff on fulfilling agency duties under the Dingell Act of 2019, EOs 13112, *Invasive Species*, and 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, and the USACE Invasive Species Policy Memorandum dated 2 June 2009.
- Providing strategic direction to USACE research programs that address invasive species including the Aquatic Plant Control Research Program and the Aquatic Nuisance Species Research Program.
- Representing USACE on regional invasive species councils.
- Coordinating and collaborating on regional invasive species councils, across Federal agencies, and with non-Federal sponsors.
- Developing and implementing cost effective strategies to address invasive species problems that affect USACE water resource management and environmental stewardship missions.
- Coordinating team initiatives with the Environmental and other relevant USACE CoPs.
- Coordinating annual cost information for USACE to be provided to the NISC (via ERDC).

USACE uses the NISMP and the ANSTF-SP goals as the general framework for planning and decision-making. The objectives identified in this PgMP correspond with the national plan but are specific to USACE business lines, missions, and authorities. The following actions have been identified to meet those objectives over the next five years. A comprehensive list of all objectives is included as Appendix C.

5-Year Implementation Timeline

Action	2023	2024	2025	2026	2027
1.1.4	X	X			
1.2.2	X		X		X
1.2.5				X	X
1.2.6	X				
1.4.1		X	X	X	
1.5.2	X		X		X
2.1.4	X		X		
3.1.2	X	X	X	X	X
3.2.1		X			X
3.3.2	X	X	X	X	X
4.1.1	X	X	X	X	X
4.1.4	X	X	X	X	X
4.2.4		X		X	
4.2.5	X	X	X	X	X
5.1.1	X	X	X	X	X
5.2.2	X		X		X
6.1.1		X	X	X	X
6.1.3		X			
6.1.4		X			

Federal guidance contains broad recommendations for managing invasive species at a National scale. This PgMP was developed to assist the USACE in finding ways to conform to guidance at the National level while informing MSC, district and other regional applications. Several constraints were acknowledged in this PgMP:

- Not all goals, objectives, and actions developed for the National level will translate uniformly at the Civil Works project level and for Military Missions and lands.
- Availability of resources will affect when and how this PgMP is implemented.
- Management decisions on annual budgets for invasive species management are generally made at the Headquarters, Division, District, and project levels and as requested on military lands.
- Long-term management problems are best avoided through early detection and rapid response eradication actions.
- The recommended actions in this plan provide only an approximation of actual needs. Ongoing adaptive planning is required for invasive species management over time.
- The USACE is often a collaborator and not the lead agency in invasive species management, particularly in regions where there are no USACE projects, managed areas, or lands.
- While USACE may have the lead in recommending and implementing invasive species management solutions under cost-shared Civil Works authorities, long-term maintenance of these projects remains the responsibility of the local sponsor.

The NISMP and the ANSTF-SP undergo recurring reviews and periodic modification to reflect changes in invasive species management. This PgMP shall be reviewed for any applicable modifications every five years to ensure that USACE goals support these National goals.

PREFACE

The United States Army Corps of Engineers (USACE) continues working nationwide to prevent and or slow the spread of invasive species into native habitats to minimize the ecological and economic harm caused by invasive species and to ensure the public can enjoy the natural surroundings to which they are accustomed.

This Program Management Plan (PgMP) is an update of the 2014 PgMP for the Invasive Species Leadership Team (ISLT) and Invasive Species Management CoP to the Environmental Community of Practice (ECoP) dated 26 June 2014. It is a strategic plan covering the USACE's efforts to prevent, eradicate, manage, and mitigate the impacts of invasive species on the agency's Civil and Military projects and programs over the next five years.

The USACE vision for implementation of the Invasive Species Program is consistent with the National Invasive Species Management Plan (NISMP) and the Aquatic Nuisance Species Task Force Strategic Plan. These plans will serve as a blueprint for USACE action on both aquatic and terrestrial invasive species. In addition, USACE's Environmental Operating Principals are a critical component in the planning and execution of this program. The USACE vision is to integrate the goals and objectives of the Invasive Species Policy into all Civil Works projects and programs to prevent or reduce the establishment of invasive and non-native species.

Significant changes since the release of the 2014 PgMP include new guidance and changes in operation of USACE facilities, specifically:

- Water Resources Reform and Development Act of 2014 {(Public Law (PL) 113-121)} §1039, *Invasive Species*
- Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2014 (PL 113-124)
- Water Infrastructure Improvements for the Nation Act of 2016 (PL 114-322) §1170, *Watercraft Inspection Stations*
- CECW-CO Memorandum, *Standardized Work Category Codes and Definition for the Civil Works Operation and Maintenance Appropriation Account by Business Line*, dated October 25, 2016
- Executive Order 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, dated December 5, 2016
- Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2017 (PL 115-423, §9)
- America's Water Infrastructure Act of 2018 (PL 115-270);
 - §1108, *Aquatic Invasive Species Research*
 - §1109, *Harmful Algal Bloom Technology Demonstration*
 - §1170, *Watercraft Inspection Stations*
- John D. Dingell, Jr. Conservation, Management, and Recreation Act of 2019 (PL 116-9)

- Chief of Engineers' Environmental Advisory Board Subcommittee Report, *Addressing Invasive Species Risks for a Sustainable National Outcome with USACE Infrastructure, Operations, and Ecosystem Restoration*, dated June 2, 2020
- Water Resources Development Act of 2020 (PL 116-260) §505, *Invasive Species Mitigation and Reduction*
- NISC 2020. Annual Work Plan FY 2021 dated October 23, 2020.
- Interagency MOU to Support Rapid Response Actions for Invasive Zebra and Quagga Mussels in Western Waters of the United States, dated November 12, 2020.

These laws and regulations have led to an ever-expanding mission for USACE. These include:

- The expansion of the watercraft inspection and decontamination station cost-share program into newly Congressionally authorized basins.
- The closure of Upper St. Anthony Falls Lock and Dam due to invasive carp.
- Construction of Permanent invasive carp Barrier I in Romeoville, IL.
- Acceptance of O&M cost exceeding \$15M annually.
- Completion of Great Lakes Mississippi River Interbasin Study – Brandon Road Chief's Report and appropriation of funds for Preconstruction Engineering and Design of new aquatic nuisance species barriers in Illinois.

In accordance with Engineering Regulation 5-1-11, *U.S. Army Corps of Engineers Business Process*, this dynamic PgMP will be reviewed annually by ISLT to reflect changes in strategy, funding, or management goals.

The ISLT also works with the USACE Environmental Community of Practice (ECoP) through the Invasive Species Management Sub-Community of Practice. The ISLT will coordinate with both organizations to ensure information on invasive species, funding, and educational opportunities, are brought to their attention to be prioritized and acted upon.

Upon request for reimbursable support under an applicable authority, support and/or services may also be provided to military installations through the Military Missions Directorate of the USACE. Support provided by the ISLT, ISMCoP, or ECoP will follow all applicable requirements governing reimbursable support provided by USACE.

ACRONYMS

AFPMB	Armed Forces Pest Management Board
ANSTF	Aquatic Nuisance Species Task Force
ANSTF-SP	Aquatic Nuisance Species Task Force-Strategic Plan
CECWCO	Corps of Engineers Civil Works and Contingency Operations
CoP	Community of Practice
ECoP	Environmental Community of Practice
EDRR	Early Detection and Rapid Response
EO	Executive Order
EOPs	Environmental Operating Principles
ER	Engineer Regulation
ERDC	Engineer Research and Development Center
HACCP	Hazard Analysis Critical Control Point
HQ	U.S. Army Corps of Engineers Headquarters
IPM	Integrated Pest Management
ISLT	Invasive Species Leadership Team
ISM	Invasive Species Management
ISMCoP	Invasive Species Management Community of Practice
IWG-HABHRCA	Interagency Working Group on Harmful Algal Blooms and Hypoxia Research and Control Amendments
MSC	Major Subordinate Command
NISC	National Invasive Species Council
NISMP	National Invasive Species Management Plan
NRM	Natural Resources Management
OMBIL	Operations and Maintenance Business Information Link
OMP	Operational Management Plans
PgMP	Program Management Plan
PPA	Project Partnership Agreement
SME	Subject Matter Expert
USACE	U.S. Army Corps of Engineers

**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
INVASIVE SPECIES MANAGEMENT
COMMUNITY OF PRACTICE**

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**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
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COMMUNITY OF PRACTICE**

1.0. PURPOSE, VISION, SCOPE, GOALS, AND CONSTRAINTS

1.1. Purpose and Need

The purpose of this document is to establish the U.S. Army Corps of Engineers (USACE) Invasive Species Leadership Team (ISLT) Program Management Plan (PgMP). This PgMP is needed to ensure that funds are used efficiently to meet the requirements of Executive Order (EO) 13112, *Invasive Species*, and EO 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, in accordance with the National Invasive Species Management Plan (NISMP) and the Aquatic Nuisance Species Task Force Strategic Plan (ANSTF-SP). This management plan defines the objectives and direction that both the ISLT and Invasive Species Management Community of Practice (ISMCoP) will provide for related research programs, on regional invasive species councils, and assisting USACE Headquarters (HQ) in program management and implementation of the USACE Invasive Species Policy (see Appendix A).

1.2. U.S. Army Corps of Engineers Vision

The USACE vision for implementation of the Invasive Species Program is consistent with the NISMP and the ANSTF-SP. These plans serve as a blueprint for USACE action on both aquatic and terrestrial invasive species. The USACE Environmental Operating Principles (EOPs) are a critical component in the planning and execution of this program. The USACE vision is to integrate the Invasive Species Policy into all Civil Works projects and programs to manage invasive and nonnative species efficiently and effectively on USACE lands. This may include support and/or services provided on a reimbursable basis to military organizations by the Military Missions Directorate of the USACE.

1.3. Scope

This PgMP provides a framework by which the USACE is applying the Invasive Species Policy to all of its activities. The estimated damage from invasive species worldwide is \$1.4 trillion annually (5% of the global economy) with impacts across a wide range of sectors including agriculture, forestry, aquaculture, transportation, trade, power generation, and recreation (Pimentel et al. 2001). A United Nations report suggested that the global vulnerability of ecosystems to invasive species could be offset by preventing the introduction of new invasive species and eradicating or controlling those damaging species already present (Burgiel and Muir 2010). The USACE will reduce the destruction of vulnerable ecosystems and the cost of controlling invasive species in the future by implementing the measures identified in the USACE Invasive Species Policy and this PgMP using an Integrated Pest Management (IPM) approach.

*PgMP for the Invasive Species Leadership Team
and the Invasive Species Management CoP*

The NISMP, the ANSTF-SP, the National Framework for Early Detection and Rapid Response (EDRR), and the USACE Invasive Species Policy apply to all USACE Civil Works Business programs, including but not limited to:

- Flood and Coastal Storm Damage Reduction
- Hydropower
- Navigation
- Environmental Protection and Compliance
- Aquatic Ecosystem Restoration
- Recreation
- Regulatory
- Emergency Management
- Tribal Partnership Program
- Planning Assistance to States
- Floodplain Management Services
- Water Supply
- Support for Others

This PgMP also applies to USACE Military Missions when such support is requested and funded pursuant to a support agreement under an applicable authority. The PgMP was developed in line with the following;

1.3.1. USACE's Environmental Operating Principles. These principles are incorporated, as applicable, to the USACE Invasive Species Policy to minimize the introduction and spread of invasive species on USACE project and military lands. They are also reflected in the goals contained in the NISMP and the ANSTF-SP as shown in Section 1.4. The EOPs are:

- Foster sustainability as a way of life throughout the organization.
- Proactively consider environmental consequences of all USACE activities and act accordingly.
- Create mutually supporting economic and environmentally sustainable solutions.
- Continue to meet our corporate responsibility and accountability under the law for activities undertaken by the USACE, which may impact human and natural environments.
- Consider the environment in employing a risk management and systems approach throughout the life cycles of projects and programs.
- Leverage scientific, economic and social knowledge to understand the environmental context and effects of USACE actions in a collaborative manner.
- Employ an open, transparent process that respects views of individuals and groups interested in USACE activities.

Consideration of the EOPs in all phases of project efforts, especially in the planning process, is critical to the success of environmental activities is. The use of these EOPs includes considering how invasive species may disrupt the sustainability of the natural system or the built system being put into place. Sustainability and resilience are cornerstones of the engineering, design and construction of Civil Works projects; however, invasive species disrupt natural ecosystems

and their sustainability. To achieve sustainability and resilience, as well as fulfill commitments to prevent spread of invasive species, a comprehensive IPM program including surveillance, monitoring, and adaptive management should be part of every project. Without these efforts, the environmental and economic consequences of invasive species are costly and the impacts exponential. Not addressing invasive species in the planning and execution phases of a project creates risk that can only multiply once a project is constructed. The USACE has significant scientific expertise in addressing invasive species issues that should be utilized when possible. USACE personnel have a corporate responsibility to effectively manage invasive species impacts and consider the views of others who may assist the agency improve performance.

1.3.2. Environmental Advisory Board Recommendations. The Chief of Engineers' Environmental Advisory Board has reviewed the agency's invasive species programs and authorities and provided a report to the Chief of Engineers documenting their findings and recommendations in June of 2020. The report identified eighteen (18) specific recommendations within six (6) broader categories related to the USACE's invasive species mission. Those recommendations have been incorporated into this PgMP. The categories are as follows and the specific recommendations are included in Appendix B.

- Prioritization and Messaging for Prevention of Invasive Species
- Training and Awareness for Prevention and Response
- Action and Consistency for Success
- Incorporate Invasive Species Across Business Lines
- Strategic Planning to Support Partnerships and Collaboration
- Address Knowledge Gaps through Applied Research

1.3.3. John D. Dingell, Jr. Conservation, Management, and Recreation Act (Dingell Act). The Dingell Act was signed in March of 2019. Each Secretary of a Federal agency was, among other items, directed to prepare a Strategic Plan that would: 1) reduce invasive species on lands managed by the Secretary, 2) include coordination with and input from states, subdivisions, Tribes, and local governments, and 3) include both the benefits and costs associated with action and inaction. This PgMP will be used to inform the Strategic Plan required under the Act. In addition, the Dingell Act created requirements for each Secretary to:

- Use cost effective measures that are informed by sound science, minimize environmental impacts, and control or manage invasive species in the most cost-effective manner.
- Conduct a comparative economic assessment of invasive species control and management methods/actions.
- Expedite invasive species actions by using all tools and flexibility within its authority to protect water or wildlife under their management from the impacts of invasive species within their jurisdiction and within applicable agency procedures.
- Ensure no less than 75% of the funding made available for invasive species control is used directly for on the ground control and management.
- Use contracts or partnerships with other Federal agencies, states, Tribes, or private individuals or entities to assist with the control and management of invasive species.

1.4. Goals

The ISLT used a variety of resources to help formulate the goals of this PgMP. They include the Dingell Act, Executive Orders; and Water Resources Development Acts, as well as plans from the National Invasive Species Council. These goals and related management strategies amount to a proactive and comprehensive IPM approach to invasive species management that will achieve a net reduction of invasive species and their impacts on lands managed by the USACE. These practices help to minimize the adverse environmental effects of pest and invasive species on our natural areas as well as reduce potential human and safety risks from pests and invasive species. These goals are:

Goal 1: Prevention. Prevention is the first and best line of defense against invasive species. Keeping invasive species out of an area avoids their adverse impacts as well as the costs to manage them. Once invasions occur, far greater commitments of money, time, and other resources are required to reduce the harm caused. For some invasive species, there are no, or very few, tools available for their control once their populations are established. Therefore, prevention is the most cost-effective and, in some cases, the only available approach.

Goal 2: Early Detection and Rapid Response. The next most effective strategy after prevention, is detecting invasions early and halting their expansion. This is accomplished by developing the capacity to identify, report, and effectively respond to newly discovered localized invasive species occurrences. National coordination and communication among Federal and non-Federal entities increases the overall effectiveness of these efforts for invasive species management.

Goal 3: Control, Eradication and Restoration Management. Control and, wherever possible, eradicate established invasive species populations and promote ecosystem restoration. Efforts to contain and reduce the spread of established populations of invasive species to minimize their harmful impacts should be planned using decisive actions and goals. Restoration of native species and habitat conditions as well as rehabilitating high value ecosystems and key ecological processes that have been impacted by invasive species to meet desired future conditions should be foremost.

Goal 4: Coordination and Cooperation. Work strategically, using all of USACE's scientific, management, and partnership resources in unison to manage invasive species. Enhance the coordination and effectiveness of Federal programs to better leverage resources and fully engage state, tribal, territorial, and local governments as well as international and private sector partners. Use the best available science to guide management decisions, policy development, and provide authoritative information to the public.

Goal 5: Research and Development. Science-based decision support tools are essential in determining which species are likely to become invasive and in identifying their pathways of spread. Best management practices are essential as well so resources can be focused on a cost-effective manner that minimizes environmental impacts.

Goal 6: Communication, Education, and Information Management. Effectively communicate the importance of invasive species management (prevention, control and eradication, EDRR) to the public, partners and stake holders alike.

1.5. Constraints and Critical Assumptions

Federal guidance contains broad recommendations for managing invasive species on a national scale. This PgMP was developed to assist the USACE in finding ways to conform to guidance at the national level while aligning with USACE business lines and practices. Several constraints were identified during the development of the PgMP:

- Not all goals, objectives, and actions developed for the National level will translate to the Civil Works project level and areas falling within the purview of Military Missions.
- The availability of resources will affect when and how this PgMP is implemented.
- Management decisions regarding annual budgets for invasive species management are generally made at the Division, District, project level, and as requested for military projects performed on a reimbursable basis. Long-term management problems can be avoided through EDRR eradication actions.
- The recommended actions within this plan are only an approximation of need. Ongoing planning and adjustment will be required at all levels of USACE to achieve invasive species management over time.
- The USACE is often a collaborator and not the lead agency in invasive species management, particularly in regions where there are no USACE managed areas.
- The USACE may lead in recommending and implementing invasive species management under cost-shared Civil Works authorities, but long-term maintenance of these projects is the responsibility of the local sponsor.
- Project-focused and funded invasive species management projects fail to address watershed wide dispersal of invasive species.
- Development, testing and permitting of specific invasive species management tools often takes far longer than it does for opportunistic species to disperse over project areas, watersheds, regions, and nations.

The NISMP and the ANSTF-SP undergo recurring reviews and periodic modification to reflect changes in invasive species management. The ISLT will review this PgMP annually to reflect changes in strategy, funding, or management goals. The Plan will be updated every five years.

2.0. ORGANIZATIONAL RESPONSIBILITIES

2.0. U.S. Army Corps of Engineers Responsibilities

USACE is authorized to manage invasive species through a variety of regulations and policies. The following policies provide the framework by which USACE manages invasive species:

- **PL 116-9 John D. Dingell, Jr. Conservation, Management, and Recreation Act.** This law directs USACE to: 1) inhibit or reduce the populations of invasive species; and 2) effectuate restoration or reclamation efforts. It also calls for USACE to develop a strategic plan for the implementation of the invasive species program to achieve, to the maximum extent practicable, a substantive annual net reduction of invasive species populations or infested acreage on land or water managed by the USACE.

- **Executive Order 13751, *Safeguarding the Nation from the Impacts of Invasive Species*.** This order amends EO 13112, *Invasive Species*, and directs actions to continue coordinated Federal prevention and control efforts related to invasive species. This order maintains the National Invasive Species Council (NISC) and the Invasive Species Advisory Committee; expands the membership of the NISC; clarifies the operations of the NISC; 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.
- **Executive Order 13112, *Invasive Species*.** This EO requires Federal agencies, including USACE, to address the NISMP and the ANSTF-SP goals.
- **USACE Invasive Species Policy Memorandum dated 2 June 2009.** This policy memorandum requires all USACE Civil Works projects and programs to address invasive species in accordance with the NISMP (Appendix A).

2.2. Invasive Species Leadership Team (ISLT)

The ISLT was established by a Corps of Engineers Civil Works and Contingency Operations Memorandum dated 13 July 2005. Its intent is to provide oversight of the USACE Invasive Species Program. The ISLT provides direction to achieve goals and objectives that complement the NISMP and the ANSTF-SP and that are applicable to USACE Civil Works programs and projects. The ISLT will provide support for the exchange and sharing of information, as well as support to develop and provide strategic recommendations to USACE and the U.S. Army Engineer Research and Development Center (ERDC).

The ISLT meets twice a year as a team. As the need arises, the team or sub committees of the ISLT conduct teleconferences or video conferences to advance progress on tasks and to review progress of any element of the PgMP. The ISLT also designates 'ad hoc' committees as needed for specific tasks. Applicable regulations and authorities as they relate to the ISLT are updated as needed.

Invasive Species Leadership Team Structure. The initial structure of the ISLT was defined within a Directorate of Civil Works (CECW-CO) Memorandum, *Invasive Species Leadership Team Appointments*, dated 13 July 2005 (Appendix D). The team structure has been slightly modified at the direction of CECW-CO to address changing needs. The ISLT generally consists of one representative from each Major Subordinate Command (MSC) Division Office, a representative from one of the District Offices within each MSC, HQUSACE proponents, and liaisons representing the research community from ERDC, Armed Forces Pest Management Board (AFPMB), and the USACE Interagency Working Group on Harmful Algal Blooms and Hypoxia Research and Control Amendments [IWG-HABHRCA Interagency Working Group) Table 1].

*PgMP for the Invasive Species Leadership Team
and the Invasive Species Management CoP*

Table 1. ISLT Membership Structure

Headquarters		MSC	District
Civil Works Chief of the Operations and Regulatory CoP (Lead)	HQ Champion – Operations Division Staff	<ul style="list-style-type: none"> • Senior Environmental Leader OR • Chief for Natural Resources Management 	<ul style="list-style-type: none"> • Operations • Planning • Engineering • Project Management
Military Missions Chief of the Environmental Division, USACE	HQ Champion – Environmental CoP Staff		

Liaison	Support
ERDC <ul style="list-style-type: none"> • Technical Director, Environmental Engineering and Sciences, Environmental Laboratory • Associate Technical Director, Environmental Engineering and Sciences, Environmental Laboratory 	ERDC serves as the research lead and technical support for the ISLT, overseeing the Aquatic Plant Control Research Program, Aquatic Nuisance Species Research Program Meeting facilitation, and web pages.
<ul style="list-style-type: none"> • DoD AFPMB Natural Resources Committee Federal Integrated Pest Management Coordinating Committee Representative 	ISLT’s liaison to the AFPMB, leveraging the organizational strengths of both USACE and the AFPMB.
<ul style="list-style-type: none"> • USACE Members on IWG-HABHRCA Interagency Working Group 	IWG-HABHRCA Interagency Working Group liaisons are tasked with coordinating and convening Federal agencies and their stakeholders to discuss IWG-HABHRCA events in the United States.

District and Project-level appointees must be subject matter experts (SMEs) engaged in invasive species management (ISM) activities, committees and/or projects. The duration of appointment is at the discretion of the MSC and/or the ISLT’s Management Team. Appointments are open ended but contingent upon the member’s ability to participate. Failure to attend four consecutive meetings or participate in ISLT activities will result in an ISLT Management Team request to the MSC for a replacement. Participation on committees is voluntary but strongly encouraged for all members of the ISLT. It is essential that ISLT members represent USACE on regional invasive species teams, Aquatic Species Nuisance Regional Panels, and/or work directly with their representatives on these teams in their MSC’s geographic area.

2.2.1. Invasive Species Leadership Team Responsibilities

- Providing recommendations to HQ staff on fulfilling agency duties under the Dingell Act and EOs 13112, *Invasive Species*, and 13751, *Safeguarding the Nation from the Impacts of Invasive Species*.
- Providing strategic direction to research programs that address invasive species including the Aquatic Plant Control Research Program and the Aquatic Nuisance Species Research Program.
- Representing USACE on regional invasive species councils.
- Coordinating and collaborating with regional invasive species councils across Federal agencies and with non-Federal sponsors.

- Developing and implementing cost-effective strategies to address invasive species problems that affect USACE water resource management missions.
- Coordinating team initiatives with the Environmental (and other relevant) CoPs.
- Coordinating annual cost information for USACE to be provided to the National Invasive Species Council (via ERDC).

2.3. Invasive Species Management Community of Practice (ISMCoP)

The USACE ISMCoP is a subgroup of the Environmental Community of Practice (ECoP) that provides a community of specialized knowledge and skills within USACE to assist all business lines. The ISMCoP regularly interacts to collectively learn, solve problems, build skills and competencies, and develop best practices around a shared concern, goal, mission, set of problems, or work practices related to invasive species management. Oversight is conducted by the ECoP. Implementation and operation of the ISMCoP is the responsibility of the ISLT.

2.4. Major Subordinate Command Responsibilities

Each MSC is encouraged to set up a team for the purpose of Invasive Species Policy Implementation. The team will consist of those ISLT members from the MSC along with District representation. It is recommended that District representation include Planning and Operational components as funding allows. The MSC will respond to invasive species data calls, bring issues to the ISLT for resolution, and disseminate invasive species information to Districts. MSCs may choose to develop invasive species plans that combine meaningful attributes of IPM for their geographic area that are consistent with the USACE Invasive Species Policy.

2.5. District Responsibilities

The majority of invasive species management and funding decisions are made at the District level during the planning process or as part of operation and maintenance activities. The following are examples of opportunities where a District should consider invasive species and their effects.

2.5.1. SMART Planning. SMART Planning entails balancing the level of uncertainty and risk with the level of detail of the study. The level of detail required to make planning decisions will grow over the course of the study, as the study team moves from an array of alternatives to a single recommended alternative. Throughout this process it is important that the study team identify and consider the effects of invasive species on the project, and the appropriate time to determine the appropriate amount of detail. Invasive species control and management should be considered prior to the design and construction phases and addressed in NEPA documents as well as Mitigation, Monitoring, and Adaptive Management plans. Each study team should consider how to address the risks of invasive species and document such, as appropriate, in the risk register for the project. District Quality Control, Agency Technical Review, MSC Quality Assurance, and HQUSACE Policy and Legal Review team members should confirm that invasive species are being considered in the planning process.

2.5.2. Program and Project Risk Assessment. The risks of spreading invasive species should be considered during all phases of planning and review, Pre-Construction Engineering and Design, and Construction. Each District is responsible for assessing the risk to ensure that adequate controls are in place and operating effectively to safeguard government assets. Risk

based analysis is used to compare plans in terms of the likelihood and variability of their physical performance, economic success, and residual risks. The total effects of risk and uncertainty on the project's design and viability can be examined and strategic decisions can be made reflecting an explicit tradeoff between risks and costs for, among other topics to include invasive species.

2.5.3. Aquatic Ecosystem Restoration Projects, Environmental Compliance, and Mitigation. When considering ecosystem restoration projects, achieving environmental compliance under applicable laws, or assessing mitigation alternatives for navigation, flood risk management and coastal storm damage projects, reasonable opportunities to restore native species and habitats should be considered. Mitigation measures are included in Planning documents and are authorized by Congressional legislation or approved by HQ as appropriate, to provide compensation for ecological resources unavoidably and adversely affected by a USACE project. Mitigation includes standalone projects or actions undertaken concurrently with project construction; operation and/or maintenance. In many cases, invasive species management may comprise a major component of aquatic ecosystem restoration and mitigation.

Usually, the species, habitats, and/or measures identified for mitigation are identified in feasibility reports, supporting NEPA and compliance documents, and design memoranda submitted to support project authorization and other reports to Congress. All authorization documentation should address invasive species issues to include prevention, EDRR and how the project addressed these issues.

The USACE has requirements under section 906 of WRDA 1986 as amended (33 U.S.C. 2283), to mitigate for damages to ecological resources, including terrestrial and aquatic resources, and fish and wildlife losses that result from any water resources project. Additionally, compensatory mitigation of ecological resources (such as creation of wetlands) requires monitoring and adaptive management, as needed, and continued OMR&R. Aquatic ecosystem restoration projects, which are not mitigation activities, also require monitoring and adaptive management, as appropriate, to determine that restoration is successful (Section 2039 WRDA 2007, as amended) (33 U.S.C §2330a). However, maintenance of non-structural and non-mechanical elements of aquatic ecosystem restoration projects will only be required of a non-federal sponsor for ten years after the restoration has been determined to be successful by meeting ecological success criteria.

2.5.4. Master Planning: Invasive species prevention, control and an IPM plan should be considered in Master Planning under processes described in Chapter 3 of Engineer Regulation (ER) 1130-2-550, *Recreation Operations and Maintenance Guidance and Procedure*. A Master Plan is a conceptual document guiding USACE responsibilities pursuant to Federal laws and regulations to preserve, conserve, develop, restore maintain, and manage the project lands, waters, and associated resources. The primary goals of a Master Plan are to prescribe an overall land and water management plan, resource objectives, land use classifications, and associated design and management concepts. The plan addresses all resources including, but not limited to, fish and wildlife, vegetation, cultural, aesthetic, interpretive, recreational, mineral, and commercial resources. It also addresses invasive species management through prevention, detection and response planning and as related to outgranted lands, easements and water.

2.5.5. Operation Management Plans: Operational Management Plans (OMPs) are developed to address the operations, planning, real estate, safety, and public aspects of the

project to accomplish the natural resources program objectives identified in the Master Plan. OMPs provide for monitoring project lands to determine unacceptable pest populations, including invasive species, through early detection and response planning. OMPs are required to contain annual pest control plans for documentation of pesticide use.

2.5.6. Pest Control and Suppression Programs: It is USACE policy to perform IPM programs on Civil Works projects in a manner that provides for the safety of the environment, the public, and the pesticide applicator as described in ER 1130-2-540, *Environmental Stewardship Operations and Maintenance Policies*. This involves a comprehensive approach to prevent pests and disease vectors from causing unacceptable damage to operations, people, property, or the environment. Integrated Pest Management uses targeted, sustainable (effective, economical, environmentally sound) methods, including habitat modification, biological control, genetic control, cultural control, mechanical control, physical control, regulatory control and, when necessary, the judicious use of least-hazardous pesticides. Properly implemented IPM minimizes harm to human health and the environment; reduces the need for pesticides; reduces pest resistance; and minimizes pesticide waste as defined in ER 200-2-3, *Environmental Compliance Policies*.

2.5.7. Project Partnership Agreements. A Project Partnership Agreement (PPA) is a legally binding agreement between the Federal government and a non-Federal sponsor (state, municipal government, flood control district, port authority, etc.) for construction of a water resources project. The PPA describes the project and the responsibilities of the Government and the non-Federal sponsor in the cost sharing and execution of project work. PPAs may include provisions that address regional invasive species issues.

2.5.8. Real Estate Outgrants. A Real Estate Outgrant authorizes the right to use federally-controlled real property. It is a written legal document that establishes the timeframe, consideration, conditions and restrictions on the use of Federal property. Invasive species prevention and control is a consideration in the development and execution of Real Estate Outgrants.

2.5.9. Regulatory Permitting. The USACE Regulatory Program protects the Nation's aquatic resources while allowing reasonable development through fair, flexible and balanced permit decisions. The USACE evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. The invasive species policy applies to the Regulatory Program. The evaluation process for Department of the Army permits may address, through the appropriate public interest review factors (e.g., conservation, general environmental concerns), invasive species concerns in their analysis of impacts at the project site and associated compensatory mitigation projects. An appropriate level of coordination with Federal, state and local agencies will be used to develop those analyses. A Department of the Army permit may include special conditions to require the permittee to control the introduction or spread of invasive species at these sites.

2.6. Armed Forces Pest Management Board

The AFPMB provides support to DoD personnel on any pest management issue in any situation. The AFPMB Army is represented on the ISLT to facilitate the exchange of knowledge and resources throughout DoD.

2.7. Business Line Managers

The ISLT works with USACE Natural Resources, Navigation and Aquatic Ecosystem Restoration Business Line Managers to assess changes in operational costs due to invasive species and to identify operational needs, prioritize research, and provide assistance on proper tracking of data.

2.8. Military Missions

The ISLT is a resource made available to provide information, knowledge, practices, and other invasive species-related resources in support of the Military Construction Mission.

2.9. Regional Environmental and Energy Office

The ISLT considers the USACE Regional Environmental and Energy Office as a key link to states for engaging in invasive species management initiatives that may affect military training, testing, and readiness.

3.0. IMPLEMENTATION GOALS AND OBJECTIVES FOR USACE

USACE uses the NISMP and the ANSTF-SP goals as the general framework for planning and decision-making. The objectives identified in this PgMP correspond with the national plan but are USACE specific. These goals and objectives were adapted by the ISLT from the latest versions of the NISMP and the ANSTF-SP. Sections 3.1 through 3.6 identify those goals and a subset of objectives for the ISLT's efforts over the next five years.

Each goal incorporates principles of an IPM program using tools and strategies that work in concert with each other. The current implementation plan with all goals, objectives, and ISLT actions are located in Appendix C. As applicable, the EOPs are incorporated into the implementation goals and objectives described below.

3.1. Prevention Goal

Objective 1: Identify pathways by which invasive species could potentially invade USACE-managed Federal lands, military installations, or areas for which USACE has entered into a reimbursable work support agreement.

Objective 2: Take steps to block pathways that are recognized as significant sources for the unintentional introduction of invasive species.

Objective 3: Implement a process for identifying high priority invasive species that are likely to be introduced unintentionally.

Objective 4: Increase the use of prevention practices to inhibit the secondary spread of invasive species within the United States and reduce long-term economic impacts.

Objective 5: Develop exclusion and sanitation methods for preventing spread of invasive species in all USACE projects and programs.

3.2. Early Detection and Rapid Response Goal

Objective 1: Take steps to improve detection and identification of introduced invasive species and implement management actions to track invasive species data.

*PgMP for the Invasive Species Leadership Team
and the Invasive Species Management CoP*

Objective 2: Develop a program for coordinating rapid response to incipient invasion on USACE projects.

Objective 3: Leverage environmental compliance and advance planning to increase the speed of rapid response activities while ensuring adequate coverage through NEPA and other environmental laws and regulations.

3.3. Control, Eradication and Restoration Management Goal

Objective 1: Establish performance measures to determine the efficacy of prevention and control methods and adapt and modify plans as necessary.

Objective 2: Develop and issue a protocol for ranking priority of invasive species control projects at local, regional, and ecosystem-based levels.

Objective 3: Develop and implement control measures for invasive species in accordance with budget appropriations.

3.4. Coordination and Cooperation Goal

Objective 1: Increase engagement in partnerships at multiple scales and “do our share” to: 1) advance mutual priorities, promote efficacy, and leverage cost efficiencies, and 2) promote trust and respect between partners.

Objective 2: Minimize risks associated with invasive species introduction and expansion through public outreach. Provide education, communication, and interpretive programs to the public to gain their trust and assistance in the prevention, detection, identification, and control of invasive species.

3.5. Research and Development

Objective 1: Develop priorities for invasive species research needs and participate in the research field review.

Objective 2: Leverage research and innovation to develop safe and cost-effective tools, technologies, and methodologies to prevent, control or eradicate invasive species and secondary spread, restore native species and ecosystems, and adapt to environmental changing conditions.

3.6. Communication, Education, and Information Management

Objective 1: Input invasive species data into the Natural Resources Management (NRM) tool and Geographic Information Systems, to the extent practical, and promote the use of these tools within the ECoP.

Objective 2: Develop a communication plan to share information about invasive species infestations on USACE projects (NRM Gateway website).

Objective 3: Partner, develop, and implement a National public awareness campaign.

Objective 4: Partner, develop, and implement a model public awareness program on USACE projects that incorporates National, regional, state, and local level invasive species public education activities.

Objective 5: Increase information exchange across USACE and with others to share expertise on invasive species science and management and promote efficiency and cost-savings.

Objective 6: Increase understanding about invasive species and motivate actions to address them.

Objective 7: Minimize risks associated with pathways through public outreach. Provide education, communication, and interpretive programs to the public to gain their trust and assistance in the prevention, detection, identification, and control of invasive species.

Objective 8: Increase coordination of resources and investments across USACE and with others to support mutual priorities.

4.0. SCHEDULE

4.1. Invasive Species Leadership Team Schedule

The overall goals and objectives of the ISLT are to implement the USACE's Invasive Species Policy. Detailed actions are provided in Appendix C.

Table 2 shows a schedule of specific tasks the ISLT is working toward over the next five years. This schedule is funding constrained. The ISLT does not control funding or resources to complete these tasks at a Division or District level.

Table 2. 5-Year Implementation Timeline

Action		2023	2024	2025	2026	2027
1.1.4	Conduct regional risk assessments to determine priority species at USACE managed facilities and areas.	X	X			
1.2.2	Promote boat inspection stations and boat wash stations at all USACE lake projects.	X		X		X
1.2.5	Develop and implement prevention programs for identified priority invasive species and areas.				X	X
1.2.6	Develop, or adopt/promote an existing alert system to warn projects of new invasive species in their area.	X				
1.4.1	Develop and implement site specific prevention and containment practices for invasion pathways along which invasive species are likely to be introduced onto or spread from USACE-managed lands.		X	X	X	
1.5.2	Promote, and provide education on, the development and use of Hazard Analysis Critical Control Point Plans (https://www.fws.gov/policy/A1750fw1.html)	X		X		X
2.1.4	Disseminate, inform and promote the use of existing databases [EDDMapS Univ. of Georgia, Plants data USDA, Nonindigenous Aquatic Species database – USGS]	X		X		
3.1.2	Update USACE ERs and EPs to reflect the Invasive Species Policy.	X	X	X	X	X
3.2.1	Develop management checklist protocols that address prevention of recolonization on project lands.		X			X
3.3.2	Advocate for adequate O&M funding for continuing invasive species programs at ERDC.	X	X	X	X	X
4.1.1	Develop invasive species plans collaboratively with NGOs, State and local governments.	X	X	X	X	X

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Action		2023	2024	2025	2026	2027
4.1.4	Develop MOUs and MOAs with partner agencies and NGOs.	X	X	X	X	X
4.2.4	Embed and, or, update invasive species management in existing USACE training.		X		X	
4.2.5	Develop interpretive materials for field use by Operations staff et al.	X	X	X	X	X
5.1.1	Maintain a list of research needs list at each ISLT meeting.	X	X	X	X	X
5.2.2	Leverage USACE expertise and external partners to increase efficacy of tools, designs, or practices to prevent the introduction and spread of invasive species.	X		X		X
6.1.1	Collect and input invasive species data from project lands managers and input into National database [following 6.1.4]		X	X	X	X
6.1.3	Provide Enterprise Geographic Information System (EGIS) protocols for standardized data entry.		X			
6.1.4	Determine which National database(s) USACE should use - EDDMapS, Plants data base, NAS dbase, or other and inform use by development of virtual brochures or other instructional materials.		X			

4.2. Annual Reporting

4.2.1. NISC Reporting. The USACE's costs for invasive species activities are reported annually to NISC, along with other Federal agencies. Costs are estimated by USACE Business Lines and activities and then those costs are allocated to the seven NISC Costs Categories (Prevention, EDRR, Control, Research, Restoration, Education and Public Awareness, and Leadership/International Cooperation). The Costs Categories have been reported since 2009.

4.2.2. Executive Order 13112, *Invasive Species*. EO 13112 included the extensive Crosscut budget process, intended to coordinate planning for invasive species budgets for all agencies and to be used by the administration in the budget preparation process. Crosscut budgets were prepared in 2005 and 2006 but failed due to the complex nature of agency funding, lack of consistency in financial reporting and tracking expenditures related to invasive species management among Federal agencies. The Crosscut budget is supported annually, and cost codes within USACE help support accurate reporting for the Crosscut budget.

4.2.3. Costs. Cost estimating procedures for USACE invasive species costs were developed under the Aquatic Nuisance Species Research Program. Those procedures were used to estimate business line costs as well as estimating the costs categories (Figure 1).

5.0. FISCAL OBJECTIVES

This PgMP will strive to ensure that funds are used efficiently to meet the requirements of EO 13112, *Invasive Species*, and the Dingell Act to address invasive species issues in accordance with USACE Policy.

5.1. National Invasive Species Council Reporting

The USACE is required to provide the annual costs of invasive species management to NISC, organized by the seven NISC Costs Categories. Section 4.2.1 describes the estimation of these costs. Figure 1 shows the trend in total USACE expenditures submitted to NISC annually.

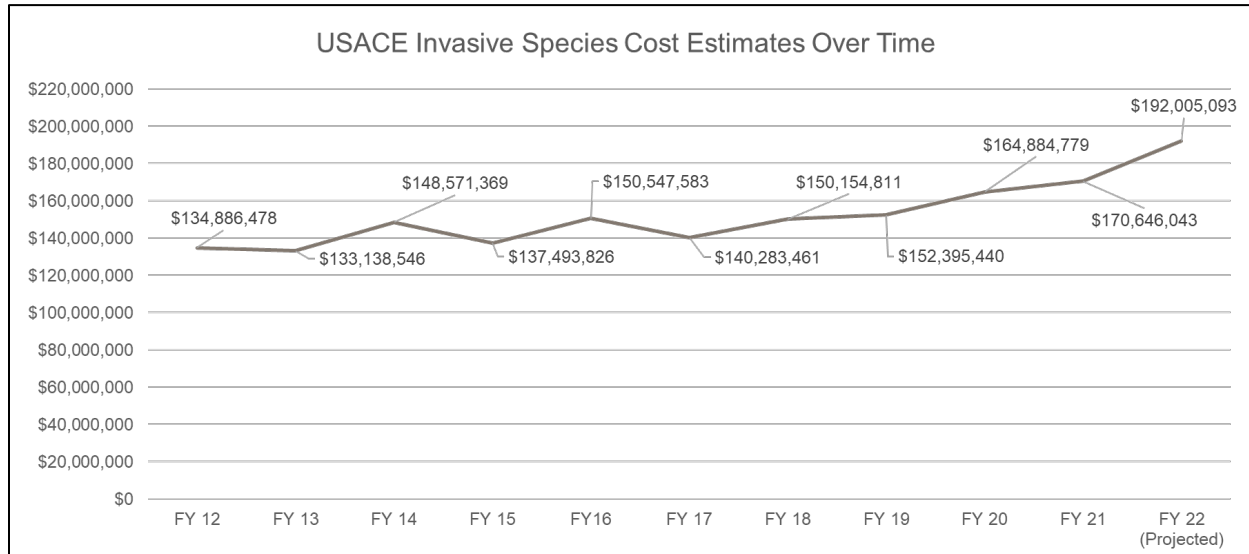


Figure 1. U.S. Army Corps of Engineers Annual Expenditures for Fiscal Years 2012-2022

5.2. Invasive Species Leadership Team Structure Funding

Participation by the ISLT members is funded at the District and/or MSC level. Additional funds for meeting rooms and participation of ERDC staff have been funded through the ERDC program.

6.0. RECOMMENDED REGULATION CHANGES

The following recommendations were provided to HQ to incorporate into existing regulations. Although the changes have not as yet been incorporated into these regulations, the legal requirements described below govern USACE activities so long as the cited authorities remain valid.

ER 405-1-12, Real Estate Handbook

Chapter 8, *Real Property Management*. Being rewritten and will become EC 405-1-80.

Recommend:

- 1) Include the "*Nonindigenous Aquatic Nuisance Species Prevention and Control Act of '90*", the "*National Invasive Species Act of '96*", and EO 13112, *Invasive Species*, authorities wherever environmental laws are listed.
- 2) Include a paragraph for Invasive Species.

This action will not promote the introduction or propagation of Federal or state listed invasive species.

OR

This action will promote the introduction or propagation of Federal or state listed invasive species. The following restriction must be incorporated into the outgrant to prohibit invasive species;

OR

Include in Section 8. MISCELLANEOUS PROVISIONS.

The proposed outgrant activity will promote the introduction or propagation of Federal or state listed invasive species. Attach any site-specific restrictions necessary to prohibit invasive species.

ER 405-1-80, Chapter 534. Management and Outgrant Programs

Add

- (PL 106-580), Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990;
- (PL 104-332), National Invasive Species Act of 1996; and EO 13112, *Invasive Species*, February 3, 1999

ER 1105-2-100. Planning Guidance Notebook

Add to Appendix A, *References*

- EO 13112, *Invasive Species*, February 3, 1999
- (PL 106-580) Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990
- (PL 104-332) National Invasive Species Act of 1996
- (PL 116-9) John D. Dingell, Jr. Conservation, Management, and Recreation Act, March 12, 2019

Add to Section C3. B, *Explanation of Terms* (Page C5)

- (19) *Invasive Species*. A species that is non-native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.
- (20) *Native Nuisance Species*. A native species, usually of vigorous growth, that threatens the diversity or abundance of more desirable species and causes harm to natural ecosystems and/or agriculture.

Add to Section C3 d. (3) Feasibility Study Phase (Page C15)

- (n) Consider project effects on the distribution or abundance of invasive species and include invasive species control measures and associated lifecycle costs as a part of the project alternative formulation and evaluation.

Revise Appendix F, *Amendment 2*. Section F20 Ecosystem Restoration Policies applicable to

Section 204, Section 206, and Section 1135, Subsection (3) Eradication of nonnative or invasive species. (Page F27)

Change heading to “Eradication, management, or control of native nuisance, nonnative, or invasive species”

Add a definition of "single action" – A single action may be a multiple year effort plus adaptive management measures determined necessary via monitoring. Permanent retreatment will become part of the Operations and Maintenance requirements of the project sponsor.

Add to Appendix G, Amendment #1 Planning Reports and Programs Exhibit G8. Federal Laws and Policies Applicable to all Recommended Plans (Page G49)

- EO 13112, *Invasive Species*, February 3, 1999
- PL 106-580, Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990
- PL 104-332, National Invasive Species Act of 1996
- PL 116-9, John D. Dingell, Jr. Conservation, Management, and Recreation Act, March 12, 2019

Revise Appendix G, *Amendment #1 Planning Reports and Programs Exhibit G9. Feasibility Studies*. Section j.(3), *PCA Environmental Compliance Checklist* (Page G51)

Appendix H, *Review and Approval of Decision Documents*, Exhibit H2 (Pages H22–H28)

Add the question, “Were impacts to project benefits due to invasive, nonnative and native nuisance species considered and assessed, and were control/management costs included?” to the considerations for each component.

EP and ER 1130-2-500. Partners and Support (Work Management Policies)

These regulations are for the O&M of project infrastructure and do not address specifics on management practices of natural resources. Recommend inserting invasive laws in Appendix A; PL 106-580, *Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990*; PL 104-332, *National Invasive Species Act of 1996*; and EO 13112, *Invasive Species*.

EP and ER 1130-2-540. Environmental Stewardship Operations and Maintenance Guidance and Procedures

The ER is currently being rewritten. The revised version includes considerations for invasive species management and no additional changes are needed.

7.0. REFERENCES

Aquatic Nuisance Species Task Force. 1996. Generic nonindigenous aquatic organisms risk analysis review process (for estimating risk associated with the introduction of nonindigenous aquatic organisms and how to manage for that risk). United States Federal Aquatic Nuisance Species Task Force, Washington, DC. 32pp.

Burgiel, S.W. and A.A. Muir. 2010. Invasive species, climate change and ecosystem based adaptation: addressing multiple drivers of global change. *Global Invasive Species*

*PgMP for the Invasive Species Leadership Team
and the Invasive Species Management CoP*

Programme, Washington, DC, US, and Nairobi, Kenya.

National Invasive Species Council. Management Plan: 2016–2018. U.S. Department of the Interior, Washington, DC, 2016. 50pp.

2021. National Invasive Species Council Annual Work Plan FY 2021. U.S. Department of the Interior, Washington, DC. 6pp.

Pimentel, D., S. McNair, J. Janecka, J. Wightman, C. Simmonds, C. O'Connell, E. Wong, L. Russel, J. Zern, T. Aquino and T. Tsomondoa. 2001. Economic and environmental threats of alien plant, animal, and microbe invasions. *Agriculture, Ecosystems and Environment* 84:120.

USDA. 2018. A national road map for the integrated pest management. <https://www.usda.gov/media/press-releases/2018/10/24/usda-announces-update-national-road-map-integrated-pest-management>. Accessed 24 January 2019.

**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
INVASIVE SPECIES MANAGEMENT
COMMUNITY OF PRACTICE**

APPENDIX A

U.S. ARMY CORPS OF ENGINEERS INVASIVE SPECIES POLICY



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON, D.C. 20314-1000

CECW-ZA

JUN - 2 2009

MEMORANDUM FOR SEE DISTRIBUTION

SUBJECT: U.S. Army Corps of Engineers Invasive Species Policy

1. BACKGROUND. In executing U.S. Army Corps of Engineers missions, districts are faced with numerous and diverse issues concerning invasive species. These problems occur on Corps managed and/or administered lands and waters, lands and waters being proposed for Federal Civil Works projects, and Corps lands utilized for outgrants and permits. No Corps nationwide policy currently exists for the prevention, control, and assessment of invasive species. The lack of policy has created inconsistencies concerning the prevention and control of invasive species across Corps districts.

2. PURPOSE. This policy memorandum establishes a consistent, nationwide policy that will be applied to all Civil Works projects and programs. It compliments the National Invasive Species Act. Measures to either prevent or reduce establishment of invasive and non-native species will be a component of all Corps Operations and Maintenance (O&M) at project sites as well as a part of implementation of a Civil Works project.

3. POLICY APPLICABILITY. This policy memorandum is applicable to the entire spectrum of Civil Works programs and projects and meets the spirit of the National Invasive Species Management Plan. It supports the USACE Environmental Operating Principals and will be applied to invasive species issues in the execution of all Civil Works Programs as follows:

a. Operations. Operating projects will include strategies for invasive species management in their project Operations and Maintenance responsibilities. These strategies will be coordinated with other Federal, State, and local agencies.

b. Civil Works Planning Activities. Civil Works planning documents will address invasive species concerns in their analysis of project impacts. Collaboration with Federal, State and local agencies will be maintained in developing those analyses.

c. Regulatory Actions. The evaluation process for Department of the Army permits may address, through the appropriate public interest review factors (e.g., conservation, general environmental concerns), invasive species concerns in their analysis of impacts at the project site and associated compensatory mitigation projects. An appropriate level of coordination with Federal, State and local agencies will be used to develop those analyses. A Department of the Army permit may include special conditions to require the permittee to control the introduction or spread of invasive species at these sites.

CECW-CO
SUBJECT: U.S. Army Corps of Engineers Invasive Species Policy

d. Engineering Research and Development Center. The Engineering Research and Development Center (ERDC) will serve as the research lead for the Invasive Species Program. ERDC will have representatives on the Invasive Species Leadership Team to support the team and USACE decisions concerning invasive species. ERDC will also share information concerning their activities and solicit input for future research and development work units.

e. Invasive Species Leadership Team (ISLT). The ISLT will provide oversight of the Corps Invasive Species Program established by this policy. In support of the National Invasive Species Management Plan, the ISLT will also provide direction to achieve goals and objectives that complement the plan that are applicable to Corps Civil Works programs and projects (See Enclosure 1). The ISLT will also provide support for the exchange and sharing of information and to develop and provide strategic recommendations to the Corps and ERDC. Applicable regulations and authorities will be updated as needed. Team members are encouraged to attend their respective Aquatic Nuisance Species (ANS) Regional Panel meetings as schedules and budgets allow. Information concerning ISLT team members, responsibilities, and activities can be found at <http://corpslakes.usace.army.mil/employees/islt/islt.html>.

4. FOCUS. The National Invasive Species Management Plan (the Plan) will serve as a blueprint for Corps action on both aquatic and terrestrial invasive species. Information concerning the Plan and the latest invasive species developments can be found at www.invasivespeciesinfo.gov. The Plan is also posted on the Corps Gateway site, <http://corpslakes.usace.army.mil/sitemap.html>, under Invasive Species. Actions proposed, permitted or submitted for authorization, either within existing authorities or by way of Congressional action, will follow the concepts promulgated by the Plan. In addition, all such actions will be coordinated with other agencies, States, Non-Governmental Organizations and the public, as appropriate, to prevent and/or control the introduction of invasive species and to minimize their economic, environmental, ecological, and human health impacts.

5. DEFINITIONS AND AUTHORITIES. Refer to Enclosures 2 and 3 respectively.

FOR THE COMMANDER:

3 Encls *Close collaboration with partners, stakeholders, and customers will be key to this program's success!*

Meredith W. B. Temple
MERDITH W. B. TEMPLE
Major General, USA
Deputy Commanding General
for Civil and Emergency Operations

DEFINITIONS *
ENCLOSURE 2

a. Control - as appropriate, eradicating, suppressing, reducing, or managing invasive species populations; preventing spread of invasive species from areas where they are present; and taking steps such as restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions.

b. Federal action - any activity authorized by a Department of the Army permit under Section 10 of the River and Harbor Act of 1899 or Section 404 of the Clean Water Act, actions authorized by continuing authorities or Congressional Action, or operation and or maintenance of Corps properties.

c. Introduction - the intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity.

d. Invasive species - An alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health. A species that is non- native to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health.

e. Native species - with respect to a particular ecosystem, a species that other than as a result of an introduction historically occurred or currently occurs in that ecosystem.

f. Non-native species - with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.

g. Species - a group of organisms all of which have a high degree of physical and genetic similarity, generally interbreed only among themselves, and show persistent differences from members of allied groups of organisms.

h. Steward - a Natural Resources Manager or Civil Works Planner whose actions impact Federal lands and waters or those lands that may become or be subjected to Federal actions. The definition is not applicable to the Corps Regulatory program since the stewardship responsibility is held by a private entity or another Federal, state, or local government agency.

*(As defined by EO 13112).

**AUTHORITIES AND REGULATIONS
ENCLOSURE 3**

- a. River and Harbor Act of 1899.
- b. River and Harbor Act of 1958 as amended (PL 85-500), Aquatic Plant Control.
- c. Non-indigenous Aquatic Nuisance Species Prevention and Control Act of 1990. [As Amended Through P.L. 106-580, 29 December 2000].
- d. National Invasive Species Act of 1996, P.L. 104-332.
- e. Invasive Species Executive Order 13112, 3 February 1999.
- f. Salt Cedar and Russian Olive Control Demonstration Act, P.L. 109-320, 11 October 2006.
- g. ER 1130-2-540 1-1, Environmental Stewardship and Operations and Maintenance Policies, 15 November 1996.
- h. ER 200-2-3, Environmental Compliance Policy, 30 October 1996.
- i. ER 1105-2-100, Appendix F – Continuing Authorities Program.
- j. ER 1130-2-500, Chapter 14 - Aquatic Plant Control Program.

**CORPS GOALS AND OBJECTIVES TO ACHIEVE THE INTENT OF
THE NATIONAL INVASIVE SPECIES MANAGEMENT PLAN
ENCLOSURE 1**

a. Leadership and Coordination Goal: Work strategically, using all Corps scientific, management, and partnership resources in unison to manage invasive species.

Objectives

- Partner/coordinate with local, State, and Federal agencies and NGO's to manage invasive species at the project, regional, and national levels; examples include the Cooperative Weed Management Areas; Aquatic Nuisance Species Task Force; Federal Interagency Committee on the Management of Noxious and Exotic Weeds, and the 100th Meridian Initiative.

b. Prevention Goal: Prevent introduction and establishment of invasive species to reduce their impact on the environment, economy, and health of the United States.

Objectives

- Identify pathways by which invasive species could potentially invade Corps managed projects.
- Take steps to interdict pathways that are recognized as significant sources for the unintentional introduction of invasive species.
- Implement a process for identifying high priority invasive species that are likely to be introduced unintentionally.
- Develop a communication plan to share information about invasive species infestations on Corps projects (Natural Resources Management Gateway).

c. Early Detection and Rapid Response Goal: Develop and enhance the capacity to identify, report, and effectively respond to newly discovered/localized invasive species.

Objectives

- Develop monitoring plans for Corps managed projects.
- Take steps to improve detection and identification of introduced invasive species.
- Each district and project should assess how their current management may be contributing to invasive species problems.

- Develop a program for coordinating rapid response to incipient invasions on Corps projects.

d. Control and Management Goal: Contain and reduce the spread and populations of established invasive species to minimize their harmful impacts.

Objectives

- Develop and issue a protocol for ranking priority of invasive species control projects at local, regional, and ecosystem-based levels.
- Develop and implement control measures for invasive species in accordance with budget appropriations.
- Develop partnerships to leverage funding.
- Develop budget packages through the annual budgetary process to acquire funding to complete control measures.
- Develop exclusion and sanitation methods for preventing spread of invasive species.
- Develop assessment and monitoring plans for invasive species management areas.
- For compensatory mitigation projects required by Department of the Army permits, include performance standards that involve monitoring for introduction or spread of invasive species at the mitigation site, and require the removal of invasive species if those performance standards are not being met.

e. Restoration Goal: Restore native species and habitat conditions and rehabilitate high-value ecosystems and key ecological processes that have been impacted by invasive species to meet desired future conditions.

Objectives

- Pursue Continuing Authorities Program restoration projects to control invasive species.
- Implement appropriate measures to restore areas where invasive species management activities have occurred to prevent re-colonization.
- Promote eradication and control measures of exotics related to the aquatic environment as a viable contributive element to DA permit mitigation plans.
- Promote exclusive use of native species in mitigation plantings associated with Regulatory permits.

- Promote exclusive use of native species in plantings associated with construction/restoration activities for Real Estate Outgrants.

f. Research Goal. Conduct appropriate research and development activities to ensure management programs are effective and science based. Sound scientific information is critical in guiding management activities, determining the magnitude of invasive species problems, planning future research and management programs, and improving intervention efforts.

Objectives

- Develop priorities for invasive species research needs. Participate in the research field review.

g. Information Management Goal: Implement management actions to track invasive species data.

Objectives

- Input invasive species data into the Operations and Maintenance Business Information Link (OMBIL).
- Input invasive species data into Project Geographic Information Systems, to the extent practical.

h. Education and Public Awareness Goal: Education, communication, and interpretation programs can convey how the public can help prevent, identify, detect, and control invasive species and gather public input into program plans and promote partnerships in their implementation.

Objectives

- Partner, develop, and implement a national public awareness campaign.
- Partner, develop, and implement a model public awareness program on Corps projects that incorporates national, regional, state, and local level invasive species public education activities.

**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
INVASIVE SPECIES MANAGEMENT
COMMUNITY OF PRACTICE**

APPENDIX B

**SUMMARY OF RECOMMENDATIONS FROM THE CHIEF OF
ENGINEERS' ENVIRONMENTAL ADVISORY BOARD
SUBCOMMITTEE REPORT**

***Addressing Invasive Species Risks for a Sustainable National
Outcome with USACE Infrastructure, Operations, and Ecosystem
Restoration, dated June 2, 2020***

The Environmental Advisory Board (EAB) was asked to review invasive species programming for USACE and provide recommendations to strengthen participation and outcomes. The EAB considered input from a variety of sources including a survey of the members of the USACE ISLT, informal communications with other agencies and organizations, and personal experiences on interagency workgroups and research projects.

Prioritization and Messaging for Prevention of Invasive Species

1. Create clear messaging from leadership and communicate through the chain that invasive species issues are a priority for planning and operations and are considered part of the EOPs. Leadership throughout USACE must embrace these responsibilities as integral to all aspects of USACE business. Direction and guidance from HQ are required to ensure that all Divisions act in a concerted manner to prevent the establishment and spread of invasive species.
2. New leaders should be provided information on the authorities and role of USACE as a national leader on invasive species, similar to the training on Environmental Operating Principles, as they take command.
3. Use and develop, when needed, invasive species ecological risk assessments to inform preventative actions and risk assessment in planning projects.

Training and Awareness for Prevention and Response

4. "Manage the front line": Train staff for identification, response actions and the ability to access resources needed to respond. Long-term management problems can be avoided through EDRR eradication actions when front line staff are trained and empowered to act.

Action and Consistency for Success

5. Develop and implement a process for quicker response actions when the costs to treat are low and a successful outcome or eradication is achievable. Federal agency coordination is possible, and partners may be able to assist to overcome some of the bureaucratic burden that would preclude action.
6. Address inconsistencies in interpretation of authorities and Memorandum of Agreements with invasive species management and the ability to conduct management (e.g., using firearms when necessary) on project lands.
7. Explore options for EDRR funding as a matter of priority. For example, the U.S. Forest Service Response to fires could serve as a potential model in combination with a mutual aid agreement with other Federal and state agencies in proximity of the infestation.

Incorporate Invasive Species Across Business Lines

8. Include "prevention of invasive species" as a stated purpose for ecosystem restoration and environmental stewardship business lines. Include invasive species management for all business lines to encourage proactive considerations rather than forcing reprioritization of available funds late in a fiscal year.
9. Management decisions regarding the annual budgets for invasive species management should be addressed at the appropriate level based on the geographic scale of the infestation.

The management decisions should permit flexibility down the chain for implementation at the field level.

10. Develop metrics to support benefits of proactive measures to prevent invasive species introduction or spread.

Strategic Planning to Support Partnerships and Collaboration

11. Continue support of and require participation in ISLT. This team is critical to USACE's success in addressing invasive species and serves a critical role in collaboration with other entities.

12. Charge the ISLT to develop a strategic plan for the implementation of the invasive species program to achieve, to the maximum extent practicable, a substantive annual net reduction of invasive species populations or infested acreage on land or water managed by the USACE (per the Dingell Act, 2019). As noted in the Act, require strong collaboration with state agencies for development of the plan and to leverage resources.

13. Emphasize inter- and intra-agency coordination and collaboration by supporting participation of the ISLT and with external collaborating bodies such as the National Invasive Species Council, the Aquatic Nuisance Species Task Force, and Regional Panels. Leadership for USACE can support staff in their participation on regional and national groups and direct them to do so with a strong and intentional presence.

14. Establish a priority to support decision support tools for data collection, spatial analysis, risk analysis, etc. with other Federal agencies to capitalize on expertise and cost efficiencies of scale.

15. Support and empower programs like state-led response programs, rather than create a new system. Support and encourage district level engagement with state and local agencies for alignment with priority actions and to leverage funding opportunities. This would include conversations of how to implement partnerships. Note that USACE does not always have to lead.

Address Knowledge Gaps through Applied Research

16. With partner input, develop a strategic framework for research investment for the highest priority needs for invasive species prevention, detection, and management.

17. Provide guidance for development and review of Statement of Need documents to assure invasive species issues are described in the broader context of the ecosystem and economic impact and to provide adequate consideration of those projects when compared with others.

18. Support and develop consistent funding opportunities to capitalize on valuable assets at ERDC and in collaboration with other research partners to assure progress through investments in the strategic framework for research.

**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
INVASIVE SPECIES MANAGEMENT
COMMUNITY OF PRACTICE**

APPENDIX C

IMPLEMENTATION GOALS, OBJECTIVES, AND ACTIONS

GOAL 1: PREVENTION

Prevention is the first and best line of defense against invasive species. Keeping invasive species out of an area avoids their adverse impacts as well as the costs to manage them. Once invasions occur, greater commitments of money, time, and other resources are required to reduce the harm caused. For some invasive species, there are no, or very few, tools available for their control once their populations are established. Therefore, prevention is the most cost-effective and, in some cases, the only available approach.

Objective 1: Identify pathways by which invasive species could potentially invade USACE and military lands as requested.

Action:

- | | |
|-------|--|
| 1.1.1 | Identify pathways of invasion at USACE facilities. |
| 1.1.2 | Document critical pathways via oceans, rivers, air, and land that have led to historic invasive species invasions. |
| 1.1.3 | Create a library of existing risk assessments (National, Regional, Local) on the USACE's NRM Gateway website. |
| 1.1.4 | Conduct regional risk assessments to determine priority species at USACE managed facilities and areas. |

Objective 2: Take steps to block pathways that are recognized as significant sources for the unintentional introduction of invasive species.

Action:

- | | |
|-------|--|
| 1.2.1 | Insert invasive species prevention language in applicable ERs and EPs. |
| 1.2.2 | Promote boat inspection stations and boat wash stations at all USACE lake projects. |
| 1.2.3 | Work with partners to support legislation to limit the importation of nonnative species. |
| 1.2.4 | Conduct research on barriers to invasive species. |
| 1.2.5 | Develop and implement prevention programs for identified priority invasive species and areas. |
| 1.2.6 | Develop, or adopt/promote existing, an alert system to warn projects of new species in their area. |

Objective 3: Implement a process for identifying high priority invasive species that are likely to be introduced unintentionally.

Action:

- | | |
|-------|---|
| 1.3.1 | Ensure USACE staff are aware of relevant authorities that can be used for prevention and encourage their implementation at all organizational levels. |
| 1.3.2 | Through the National Invasive Species Council, support other Federal and state agencies as well as NGOs in their efforts to implement their own statutory authorities to reduce the risk of invasive species introductions through pathways not regulated by USACE. |

Objective 4: Increase the use of prevention practices to inhibit the secondary spread of invasive species within the United States and reduce long-term economic impacts.

Action:

1.4.1	Develop and implement site specific prevention and containment practices for pathways that are likely to introduce or spread invasive species onto and from USACE-managed lands.
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Objective 5: Develop exclusion and sanitation methods for preventing spread of invasive species in all USACE projects and programs.

Action:

1.5.1	Develop cleaning protocols for equipment and distribute within applicable USACE elements.
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1.5.2	Educate USACE elements and Promote Hazard Analysis Critical Control Point Plans.
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1.5.3	Develop standard contract language for sanitizing equipment and post on the NRM Gateway website.
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GOAL 2: EARLY DETECTION AND RAPID RESPONSE

The next most effective strategy to prevention efforts, is detecting invasions and halting the establishment of additional invasive species through the development and capacity to identify, report, and effectively respond to newly discovered/localized invasive species. National coordination and communication among Federal and non-Federal entities increases the overall effectiveness of these efforts for invasive species management.

Objective 1: Take steps to improve detection and identification of introduced invasive species and implement management actions to track invasive species data.

Action:

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|-------|---|
| 2.1.1 | Develop monitoring plans for all USACE managed projects and as requested, for military lands. |
| 2.1.2 | Train staff to develop invasive species monitoring plans for USACE project lands. |
| 2.1.3 | Promote and utilize the USGS Nonindigenous Aquatic Species Alert System at all USACE projects http://nas.er.usgs.gov/AlertSystem/default.aspx |
| 2.1.4 | Disseminate and promote the utilization of existing databases (EDDMapS University of Georgia, Plants data USDA, Nonindigenous Aquatic Species database – USGS). |

Objective 2: Develop a program for coordinating rapid response to invasion on USACE projects.

Action:

- | | |
|-------|---|
| 2.2.1 | Develop a comprehensive EDRR plan for USACE. |
| 2.2.2 | Inventory and post (or link) to existing Rapid Response Plans from partner NGOs, stakeholders, Federal, state, and local agencies on the NRM Gateway website. |
| 2.2.3 | Develop and implement emergency authority and funding mechanism for rapid responses. |
| 2.2.4 | Explore the potential to work with or leverage other Federal and state agency rapid response resources. |

Objective 3: Leverage environmental compliance and planning to increase the speed of rapid response activities while ensuring adequate coverage.

Action:

- | | |
|-------|---|
| 2.3.1 | Work with the Environmental Planning CoP to identify and implement opportunities for advanced coverage or tiered compliance documentation for rapid response actions. |
|-------|---|

GOAL 3: CONTROL, ERADICATION AND RESTORATION MANAGEMENT

Control and wherever possible eradicate established invasive species populations and promote ecosystem restoration. Efforts to contain and reduce the spread and populations of established invasive species to minimize their harmful impacts should be planned using decisive actions and goals that employs an IPM program and best management practices. Restoring native species and habitat conditions and rehabilitating high value ecosystems and key ecological processes that have been impacted by invasive species to meet desired future conditions should be foremost.

Objective 1: Establish performance measures to determine the efficacy of prevention and control methods and adapt and modify plans as necessary.

Action:

3.1.1	Develop a strategic plan for the implementation of the invasive species program to achieve, to the maximum extent practicable, a substantive annual net reduction of invasive species populations or infested acreage on land or water managed by USACE.
3.1.2	Update USACE ERs and EPs to reflect the Invasive Species Policy.
3.1.3	Provide strategic recommendations regarding invasive species policy to HQ.
3.1.4	Include invasive species monitoring, adaptive management, and mitigation plans in planning study documents and risk registers.
3.1.5	Consider invasive species in the NEPA process during project development.
3.1.6	Discuss invasive species as a part of the After Action Review (AAR) process.
3.1.7	Ensure certified habitat evaluation models support quantification and evaluation of habitat functions relative to invasive species.

Objective 2: Develop and issue a protocol for ranking priority of invasive species control projects at local, regional, and ecosystem-based levels.

Action:

3.2.1	Develop management checklist protocols that address prevention of re-infestations on project lands.
3.2.2	Develop and distribute standard invasive species management recommendations for Regulatory use when evaluating permits and Civil Works projects.
3.2.3	Compile information for a national report.

Objective 3: Develop and implement control measures for invasive species in accordance with budget appropriations.

Action:

3.3.1	Oversee the implementation of invasive species policy by MSC, Districts, and business lines.
3.3.2	Advocate for adequate O&M funding for existing invasive species programs at ERDC.
3.3.3	Identify invasive species control as part of annual project lands budgets.
3.3.4	Use OMBIL data fields so they reflect the information needed for accurate and usable reports.

GOAL 4: COORDINATION AND COOPERATION

Work strategically to use all USACE scientific, management, and partnership resources in unison to manage invasive species. Enhance the coordination and effectiveness of Federal programs to better leverage resources and fully engage state, tribal, territorial, and local governments and international and private sector partners. Use the best available science to guide management decisions, policy development, and provide authoritative information to the public.

Objective 1: Increase engagement in partnerships at multiple scales and “do our share” to: 1) advance mutual priorities, promote efficacy, and leverage cost efficiencies, and 2) promote trust and respect between entities.

Action:

4.1.1	Develop invasive species plans collaboratively with NGOs, State and local governments.
4.1.2	Coordinate with the National Invasive Species Council on development and implementation of the National Invasive Species Management Plans.
4.1.3	Leverage existing interagency bodies, partnerships, and networks and establish new collaborative efforts, as needed and appropriate, to manage invasive species.
4.1.4	Develop and implement interjurisdictional management plans, in collaboration with others, that advance mutual priorities.
4.1.5	Use Memoranda of Understanding, cooperative agreements, or other instruments, as appropriate, to strengthen collaboration to advance efficient management activities.
4.1.6	Incentivize partnerships that work across jurisdictions to address mutual priorities.
4.1.7	Collaborate with partners to identify mechanisms to reduce interstate movement of invasive species.
4.1.8	Leverage USACE environmental and scientific leadership to bolster coordination across USACE and with partners to address regional and national prevention priorities.
4.1.9	Look for opportunities to partner in developing and distributing key messages.
4.1.10	Promote community-based partnerships that coordinate actions and leverage resources to achieve regional goals.

Objective 2: Minimize risks associated with pathways through public outreach. Provide education, communication, and interpretive programs to the public to gain their trust and assistance in the prevention, detection, identification, and control of invasive species.

Action:

4.2.1	Maintain and update the external and internal USACE invasive species web pages.
4.2.2	Publish scientific findings in ERDC Technical Reports and journals.
4.2.3	Publish articles on ISM actions in District newsletters.
4.2.4	Embed invasive species management in existing USACE training (PROSPECT).
4.2.5	Develop interpretive materials for field use.

GOAL 5: RESEARCH AND DEVELOPMENT

Conduct appropriate research and development activities to ensure management programs are effective and science based. Sound scientific information is critical in guiding management activities, determining the magnitude of invasive species problems, planning future research and management programs, and improving intervention efforts. Outcomes of these assessments inform both regulatory and nonregulatory approaches.

Objective 1: Develop priorities for invasive species research needs and participate in the research field review.

Action:

5.1.1	Assemble or update a research needs list at each ISLT meeting.
5.1.2	Engage and employ SMEs that can be used for research field review.
5.1.3	Develop appropriate monitoring protocols.
5.1.4	Identify innovative removal and eradication techniques.
5.1.5	Develop response and enhancement techniques for ensuring that native species can compete and thrive with restoration and management actions.
5.1.6	Assist ERDC with technology transfer and supplement their efforts as appropriate.

Objective 2: Leverage research and innovation to develop safe and cost-effective tools, technologies, and methodologies to prevent, control or eradicate invasive species and secondary spread, restore native species and ecosystems, and adapt to environmental changing conditions.

Action:

5.2.1	Enhance decision-support tools to conduct risk analyses that identify high-risk species and high-risk pathways that are likely to negatively impact USACE- managed resources.
5.2.2	Leverage USACE expertise and external partners to increase efficacy of tools, designs, or practices to prevent the introduction and spread of invasive species.
5.2.3	Develop and promote new tools and technologies to control or eradicate invasive species and to restore native species and ecosystems.
5.2.4	Use tools to cultivate awareness, understanding, and support for the development and implementation of new technologies.
5.2.5	Collaborate across USACE and with partners to satisfy regulatory requirements for application of new tools and technologies.
5.2.6	Develop and promote decision-support tools and best practices to aid managers in planning for and responding to climate and other environmental change, including extreme weather events, which may increase the risk of invasive species introductions.
5.2.7	Develop and use predictive modelling, and other tools to identify high-risk species and pathways of introduction into the United States.
5.2.8	Conduct research on barriers to invasive species.

GOAL 6: COMMUNICATION, EDUCATION, AND INFORMATION MANAGEMENT

Provide education, through clear and transparent communication, and interpretive programs to the public, our partners and collaborators to gain their trust, assistance and support in the detection, identification, prevention and control of invasive species. Obtain buy-in on the development of invasive species plans as well as promoting partnerships and collaboration in their implementation.

Objective 1: Input invasive species data into the NRM tool and Geographic Information Systems, to the extent practical, and promote their use within the ECoP.

Action:

- | | |
|-------|--|
| 6.1.1 | Collect and input invasive species data from project lands managers. |
| 6.1.2 | Compile information for a national report. |
| 6.1.3 | Provide EGIS protocols for standardized data entry. |
| 6.1.4 | Determine which National database the USACE should use - EDDMapS, Plants data base, NAS dbase, or other. |

Objective 2: Develop a communication plan to share information about invasive species infestations on USACE projects (NRM Gateway website).

Action:

- | | |
|-------|---|
| 6.2.1 | Offer and expand, as needed, invasive species training opportunities. |
|-------|---|

Objective 3: Partner, develop, and implement a National public awareness campaign.

Action:

- | | |
|-------|--|
| 6.3.1 | Identify key stakeholders and develop strategies for engaging them on the invasive species policy. |
| 6.3.2 | Develop invasive species training programs for USACE employees. |
| 6.3.3 | Identify ongoing outreach activities currently being undertaken by the invasive species committees, task forces, and teams within each MCS and utilize their programs. |
| 6.3.4 | Develop outreach tools to provide to the USACE Rangers in order to educate stakeholders at USACE-managed facilities. |
| 6.3.5 | Look at effective campaigns that have been successful and pattern the outreach messages after these with effective messaging. |
| 6.3.5 | Develop outreach tools to provide to the USACE Rangers in order to educate stakeholders at USACE-managed facilities. |

Objective 4: Partner, develop, and implement a model public awareness program on USACE projects that incorporates National, regional, state, and local level invasive species public education activities.

Action:

- | | |
|-------|---|
| 6.4.1 | Draft a guidance letter for the invasive species policy. |
| 6.4.2 | Participate in policy awareness activities through presentations, posters & booths. |
| 6.4.3 | Develop, distribute, and tabulate a questionnaire on policy awareness. |

6.4.4	Conduct training on such policy including workshops and presentations.
6.4.5	Oversee the implementation of invasive species policy by MSC, Districts, and business lines.
6.4.6	Provide strategic recommendations regarding invasive species policy to HQ.
6.4.7	Modify regulations to include invasive species policy including Title 36 and business lines.
6.4.8	Inform visitors to USACE-managed lands and waters of pertinent invasive species laws and regulations and cooperate closely with appropriate Federal and non-Federal law enforcement personnel to ensure compliance.
Objective 5: Increase information exchange across USACE and with others to share expertise on invasive species science and management and promote efficiency and cost-savings.	
Action:	
6.5.1	Use and enhance current mechanisms for coordination, communication, and reporting, including leveraging information technology for elements such as geospatial mapping and authoritative databases to expedite information-sharing.
6.5.2	Share a nationwide network of USACE SMEs that could provide training or technical assistance on invasive species management activities.
6.5.3	Increase engagement with Tribes and indigenous communities to understand how culture, subsistence, and traditional ecological knowledge can be incorporated into management goals and activities.
Objective 6: Increase understanding about invasive species and motivate actions to address them.	
Action:	
6.6.1	Leverage national invasive species education and outreach campaigns and websites to educate the public and provide informational resources for managers.
6.6.2	Leverage USACE capabilities to inform target audiences about invasive species, including information on distribution, impacts, and management solutions.
6.6.3	Promote coordination among State, tribal, territorial, and Federal invasive species programs and experts to ensure the public receives accurate and actionable messaging about invasive species.
Objective 7: Minimize risks associated with pathways through public outreach. Provide education, communication, and interpretive programs to the public to gain their trust and assistance in the prevention, detection, identification, and control of invasive species.	
Action:	
6.7.1	Maintain and update the USACE invasive species web pages.
6.7.2	Publish scientific findings in ERDC Technical Reports and journals.
6.7.3	Publish articles on ISM actions in District and HQUSACE newsletters and electronic media.
6.7.4	Embed invasive species management in existing USACE training (PROSPECT)
6.7.5	Develop interpretive materials for field use

Objective 8: Increase coordination of resources and investments across USACE and with others to support mutual priorities.

Action:

6.8.1	Improve reporting and analysis of USACE invasive species investments and other, related investments, particularly those allocated to high impact species.
6.8.2	Identify mutual priorities across USACE and with others and leverage investments and resources to address those priorities.
6.8.3	Develop and maintain database reporting costs and benefits of invasive species management to include savings in Operations expenses over time and in Endangered Species Act compensation under terms of Section 7 Biological Opinions.

**PROGRAM MANAGEMENT PLAN
FOR THE
INVASIVE SPECIES LEADERSHIP TEAM
AND THE
INVASIVE SPECIES MANAGEMENT
COMMUNITY OF PRACTICE**

APPENDIX D

**DOCUMENTATION ESTABLISHING THE INVASIVE SPECIES
LEADERSHIP TEAM**



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
WASHINGTON, D.C. 20314-1000

S: 1 September 2005

CECW-CO

JUL 13 2005

MEMORANDUM FOR COMMANDERS, MAJOR SUBORDINATE COMMANDS,
CHIEFS, OPERATIONS DIVISIONS

SUBJECT: Invasive Species Leadership Team Appointments

1. References:

- a. Executive Order 13112 of February 3, 1999 – Invasive Species
- b. Non-indigenous Aquatic Nuisance Species Prevention and Control Act of 1990 (PL 101-646)
- c. Aquatic Plant Control – Rivers and Harbors Act of 1958 as amended (PL 85-500)
- d. National Invasive Species Council, 2001, "Meeting the Invasive Species Challenge: National Invasive Species Management Plan," 80pp

2. This memorandum is a call for nominations to serve on the U.S. Army Corps of Engineers Invasive Species Leadership Team. Each MSC is requested to submit three nominees, each representing a Division, District, and/or Project office. From these nominees, a Division representative and either a district or project representative will be selected for each Division.

3. Invasive nuisance species are serious threats to U.S. ecosystems decreasing biodiversity, impacting human health, and imposing enormous costs (\$140B/year) on the U.S. economy. Aquatic nuisance species are of concern in Corps missions relating to maintenance of harbors, waterways, locks and dams, flood control, and ecosystem restoration. In addition, terrestrial species such as the Salt Cedar pose a significant threat to restoring natural ecosystems in Arid/Semi – Arid regions of the U.S. Strategies to address these concerns require a coordinated effort among all organizational levels within the Corps and effective coordination with other public agencies, non-governmental organizations, and other stakeholder groups.

4. The Invasive Species Leadership team will meet once per year and perform the following functions:

- a. Provide recommendations to HQ staff on fulfilling agencies duties under Executive Order 13112.

CECW-CO

SUBJECT: Invasive Species Leadership Team Appointments

- b. Provide strategic direction to the following research programs that address invasive species.
 - 1. Aquatic Plant Control Research Program
 - 2. Aquatic Nuisance Species Research Program
 - c. Represent the Corps on Regional Invasive Species Councils
 - d. Develop and implement cost effective strategies to address invasive species problems that affect Corps water resource management missions.
 - e. Coordinate team initiatives with the Environmental (and other relevant) Communities of Practice.
5. The costs for serving on the Invasive Species Leadership Team will be the responsibility of the local duty station. Please send your nominations to Dr. Alfred Cofrancesco by 1 September 2005. Dr. Cofrancesco can be reached at (601) 634-3182 or al.f.cofrancesco@erdc.usace.army.mil. The CECW-CO point of contact for the Invasive Species Leadership Team will be Mr. Joseph R. Wilson. He can be reached at (202) 761-7697 or joseph.r.wilson@hq02.usace.army.mil.

FOR THE COMMANDER:



MICHAEL B. WHITE
Chief, Operations Community of Practice
Directorate of Civil Works

CECW-CO

SUBJECT: Invasive Species Leadership Team Appointments

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COMMANDER, LOUISVILLE DISTRICT, ATTN: CELRL-OP-TO
COMMANDER, MEMPHIS DISTRICT, ATTN: CEMVM-CO
COMMANDER, MOBILE DISTRICT, ATTN: CESAM-OP-TR
COMMANDER, NASHVILLE DISTRICT, ATTN: CELRN-OP-T-N
COMMANDER, NEW ENGLAND DISTRICT, ATTN: CENAE-CO-TM
COMMANDER, NEW ORLEANS DISTRICT, ATTN: CEMVN-OD-T
COMMANDER, NEW YORK DISTRICT, ATTN: CENAN-OP
COMMANDER, NORFOLK DISTRICT, ATTN: CENAO-TS-O
COMMANDER, NWD – OMAHA OFFICE, ATTN: CENWD-CM-O - OMAHA
COMMANDER, OMAHA DISTRICT, ATTN: CENWO-OD-TN
COMMANDER, PHILADELPHIA DISTRICT, ATTN: CENAP-OP
COMMANDER, PITTSBURGH DISTRICT, ATTN: CELRP-OR-TR
COMMANDER, PORTLAND DISTRICT, ATTN: CENWP-CO-SR
COMMANDER, ROCK ISLAND DISTRICT, ATTN: CEMVR-OD-T
COMMANDER, SACRAMENTO DISTRICT, ATTN: CESPK-CO-O
COMMANDER, SAN FRANCISCO DISTRICT, ATTN: CESPN-CO-O
COMMANDER, SAVANNAH DISTRICT, ATTN: CESAS-OP-SR
COMMANDER, SEATTLE DISTRICT, ATTN: CENWS-OD-TS-NR
COMMANDER, ST. LOUIS DISTRICT, ATTN: CEMVS-CO-T
COMMANDER, ST. PAUL DISTRICT, ATTN: CEMVP-CO-OP
COMMANDER, TULSA DISTRICT, ATTN: CESWT-OD-R
COMMANDER, VICKSBURG DISTRICT, ATTN: CEMVK-OD
COMMANDER, WALLA WALLA DISTRICT, ATTN: CENWW-OD-TN
COMMANDER, WILMINGTON DISTRICT, ATTN: CESAW-OP-TN
COMMANDER, ENGINEER RESEARCH AND DEV. CENTER, ATTN: CEBRD-EE
COMMANDER, ENGINEER RESEARCH AND DEV. CENTER, ATTN: CEWES-EE-R



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS
441 G STREET, NW
WASHINGTON, DC 20314-1000

CECW-CO (1130)

3/13/23

MEMORANDUM FOR MAJOR SUBORDINATE COMMANDS, CHIEFS, OPERATIONS
DIVISIONS

SUBJECT: Invasive Species Leadership Team Appointments

1. References:

- a. Executive Order 13112, as amended by Executive Order 13751, Safeguarding the Nation from the Impacts of Invasive Species, December 8, 2016.
- b. Nonindigenous Aquatic Nuisance Species Prevention and Control Act of 1990, as amended (16 U.S.C. §4701 et seq.).
- c. Aquatic Plant Control – Rivers and Harbors Act of 1958 as amended (PL 85-500)
- d. National Invasive Species Council, 2023, National Invasive Species Management Plan, dated October 29, 2022.
- e. U.S. Army Corps of Engineers Invasive Species Policy dated February 21, 2023.

2. This memorandum provides guidance and confirms the methodology for selection of members to serve on the U.S. Army Corps of Engineers Invasive Species Leadership Team (ISLT). Membership on the ISLT generally consists of one representative from each Major Subordinate Command (MSC)/Division Office and a representative from one of the District Offices within each MSC. The team also includes HQUSACE proponents and liaisons representing the research community from Engineer Research and Development Center (ERDC), Armed Forces Pest Management Board, and the USACE Interagency Working Group on Harmful Algal Blooms and Hypoxia Research and Control Amendments.

a. Each MSC is represented by a Division representative and either a District or Project Office representative. MSCs are requested to submit a nominee, representing a Division, District, and/or Project Office when a member leaves the team. From these nominees, a Division representative will be selected to replace a Division representative and either a District or Project Office representative will be selected to replace a district or project representative for each Division.

b. A list of current ISLT members and any vacancies will be maintained on the NRM Gateway at <https://corpslakes.erd.c.dren.mil/employees/islt/islt.cfm>.

c. The duration of appointment is at the discretion of the MSC and/or the ISLT's Management Team. Appointments are open ended but contingent upon the member's ability to participate.

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SUBJECT: Invasive Species Leadership Team Appointments

3. Invasive nuisance species are serious threats to U.S. ecosystems decreasing biodiversity, impacting human health, and imposing enormous costs (\$140B/year) on the U.S. economy. Aquatic nuisance species are of concern in USACE missions relating to maintenance of harbors, waterways, locks and dams, flood control, and ecosystem restoration. Terrestrial species pose a significant threat to maintaining and restoring natural ecosystems in all regions of the U.S. Strategies to address those concerns require a coordinated effort among all organizational levels within USACE and effective coordination with other public agencies, non-governmental organizations, and other stakeholder groups.

4. The Invasive Species Leadership team meets twice a year as a team and performs the following functions:

a. Provide recommendations to HQ staff on fulfilling agencies duties under Executive Order 13112, as amended.

b. Provide strategic direction to the following research programs that address invasive species.

(1) Aquatic Plant Control Research Program

(2) Aquatic Nuisance Species Research Program

c. Represent USACE on Regional Invasive Species Councils

d. Develop and implement cost effective strategies to address invasive species problems that affect USACE water resource management missions.

e. Coordinate team initiatives with the Environmental (and other relevant) Communities of Practice.

5. The costs for serving on the Invasive Species Leadership Team will be the responsibility of the local duty station. The CECW-CO point of contact for the Invasive Species Leadership Team will be Mr. Michael Richards. Please send your nominations, as necessary, to Michael Richards. He can be reached at (202) 913-4070 or michael.g.richards@usace.army.mil.

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THOMAS P. SMITH, P.E.
Chief, Operations and Regulatory Division