

Guidance for Aquatic Nuisance Species Control and Management Plans

June 2025

Control Subcommittee of the Aquatic Nuisance Species Task Force





A Note from the ANSTF Control Subcommittee

The Aquatic Nuisance Species Task Force completed a strategic planning effort during 2019 which resulted in a work plan (ANSTF Strategic Plan, 2020-2025). A Control Subcommittee was created to complete several objectives including four work products under "Objective 4.1: Coordinate the development and implementation of ANS Management and Control Plans." This document combines four work products of that objective into a single cohesive guidance manual for Aquatic Nuisance Species Control and Management Plans.

ANSTF Control Subcommittee Membership:

- Kim Bogenschutz (Chair), Iowa Department of Natural Resources
- Don MacLean (Coordinator), U.S. Fish and Wildlife Service
- Karen McDowell, San Francisco Estuary Partnership
- Jim Straub, Massachusetts Dept. of Conservation and Recreation
- Ceci Weibert, Michigan Department of Environment, Great Lakes, and Energy
- Dennis Zabaglo, Tahoe Regional Planning Agency
- Paul Zajicek, National Aquaculture Association

Author's Note: Because this guidance consists of four different parts, and the reader may turn directly to the part they require without reading the introductory material, the Control Subcommittee has chosen to repeat the in-text definition of abbreviations and acronyms the first time they are used in each of the four parts.

Quick Start Guide for ANS Control and Management Plan Guidance

This Quick Start Guide is designed to help users navigate the processes involved in the development of Aquatic Nuisance Species Control and Management Plans developed by or in association with the Aquatic Nuisance Species Task Force (ANSTF).

The **INTRODUCTION** provides context with respect to the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA), the implementation and oversight of Control Plans (including the concepts of Plan Host Entity, Plan Liaison, and Plan Manager), and the potential geographic scope of the Control Plans.

PART ONE - Outlines the Decision-Making Process to help the ANSTF determine if a Control Plan is warranted.

The decision to pursue or become involved in the development of a new Species Control and Management Plan (Control Plan) may arise from one of the following scenarios:

- ANSTF Members may request that the full ANSTF consider pursuing or becoming involved in the development of a Control Plan.
- External entities may approach the ANSTF to request that they consider pursuing or becoming involved in the development of a Control Plan.
- External entities already in the process of developing a species control and management plan may seek assistance from the ANSTF in the development, review, and ultimate approval of a Control Plan.

The following diagrams help illustrate the process:

- 1) Framework Summary (Diagram A) Summarizes the full decision-making process.
- 2) Phase 1, Problem Formulation and Scoping (Diagram B) Is a 7-step process used to determine if a Control Plan may be warranted. This is the starting point for all the above scenarios.
- **3)** Phase **2,** Risk Assessment and its Evaluation (Diagram C) Outlines the basic information required if a risk assessment is needed.
- **4)** Phase 3, Risk Management and Plan Decision-making (Diagram D) Summarizes the information the ANSTF will consider in deciding to pursue the development of a Control Plan.

PART TWO - Describes the Control Plan Development Process

This section provides guidance on the Control Plan development process. This includes seeking public input by way of the Federal Register.

PART THREE - Identifies the Required Content for a Control Plan

This section provides guidance on what information needs to go into a Control Plan.

PART FOUR – Outlines the Control Plan Archival Process

This section provides guidance on archiving a Control Plan that may no longer be needed.

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Introduction to Aquatic Nuisance Species Control and Management Plans

Established nonnative species causing harm to the economy, environment, or human health may trigger local, regional, or national interest to develop a Species Control and Management Plan (hereafter referred to as "Control Plan"). Control plan development is authorized in law and an implicit goal is to create collaborative working relationships to achieve successful management. A Control Plan should include key components such as geographic scope, risk analysis results (assessment, management, and communication), and the elements of plan implementation (collaborative roles). The goals, objectives, and actions should include, but may not be limited to preventing further introduction and spread, educating the public, reducing population size, and restoring affected habitats of native species when appropriate.

The following introductory information and guidance are intended to inform interested local, regional, or national entities on:

- 1. The process (Part One) to determine if a Control Plan is warranted.
- 2. The plan development process (**Part Two**) and content needed (**Part Three**) to draft a Control Plan to be presented to the Aquatic Nuisance Species Task Force for approval.
- 3. The steps (Part Four) necessary to archive obsolete plans.

Control Plans and the Nonindigenous Aquatic Nuisance Prevention and Control Act

Authority for Control Plan Development

Congress included language within the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA) giving the Aquatic Nuisance Species Task Force (ANSTF) the authority to facilitate the control of high priority aquatic nuisance (invasive) species (see footnote on page 6):

- Section 1202(e)(1) states: "The Task Force may develop cooperative efforts, within the program established under subsection (a), to control established aquatic nuisance species to minimize the risk of harm to the environment and the public health and welfare. ..." and
- Section 1203(e)(3) states: "If the Task Force determines in accordance with paragraph (2) that control of an aquatic nuisance species is warranted, the Task Force shall develop a proposed control program to achieve the target level of control. ..."

It is important to note that in the decades since NANPCA was passed, terminology has evolved, and the terms "cooperative efforts ... to control established aquatic nuisance species ..." and "control programs" are now generally referred to as Species Control and Management Plans.

Although this document is an ANSTF document, it is important to note that the ANSTF does not have sole authority or oversight over the development of all Control Plans. There are no constraints on who can develop a Control Plan for an invasive species, whether terrestrial or aquatic; Control Plans can be developed by anyone for any geographic scale at any time to manage invasive species issues and do not need to be approved by the ANSTF. In the case of aquatic nuisance species, however, some entities may see value in utilizing the broad network of subject matter experts available to the ANSTF and wish to

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request the development of a National or Regional Control Plan. In some cases, the development of a Control Plan approved by the ANSTF has led to future funding to support plan implementation. If the ANSTF is requested to pursue or become involved in the development of a Control Plan, then they have a responsibility to ensure the plan contains specific components, thus the plan must follow a specific development process, outlined in the first three parts of this guidance, and ultimately may be approved by the ANSTF .

Definition of Aquatic Nuisance Species¹

Control Plans may be developed for species which fit the following definition for **Aquatic Nuisance Species (ANS)** as defined in Section 1003 (1) of NANPCA:

"A nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters."

NANPCA also defined a Nonindigenous Species as:

"any species or other viable biological material that enters an ecosystem beyond its historic range, including any such organism transferred from one country into another."

The 1994 Aquatic Nuisance Species Program Guidance that was developed after the ANSTF was formed, in collaboration with the U.S. Fish and Wildlife Service, further clarified the definition by defining **Aquatic Species** as:

"All animals and plant species as well as pathogens or parasites of aquatic animals and plants that may occur in inland, estuarine and marine waters and are totally dependent on aquatic ecosystems for at least a portion of their life cycle."

If an invasive species is found early and authorized agencies determine eradication is feasible in a relatively short time period, then this action falls under "rapid response," not control.

Definition of Control

The term "control" can encompass a variety of actions when applied to aquatic species. In Section 1202(e)(1), NANPCA defines control as:

"For purposes of this Act, control efforts include eradication of infestations, reductions of populations, development of means of adapting human activities and public facilities to

¹ Within the discipline of invasive species, the term <u>aquatic nuisance species</u> (ANS) has generally been replaced with the term <u>aquatic invasive species</u> (AIS). Though the ANSTF uses the terms interchangeably now, ANS is predominantly used in this document due to its original use in the specific components of the Nonindigenous Aquatic Nuisance Prevention and Control Act.

accommodate infestations, and prevention of the spread of aquatic nuisance species from infested areas."

However, as invasive species management and its terminology has evolved over the years, the term "eradication" has become more closely associated with rapid response than with species management and control. For the purposes of this guidance document, the eradication portion of the definition above is considered to be "long-term" eradication. If an invasive species is found early and authorized agencies determine eradication is feasible in a relatively short time period, then this action falls under "rapid response," not control.

Control Plan Collaboration, Implementation, and Oversight

Collaboration is Vital

Control Plan development should be a collaborative effort with Federal, Tribal, State, and Territorial agencies, industry, non-governmental organizations, and other stakeholders when final plans are approved by the ANSTF. This is emphasized in Section 1202(e) of the National Invasive Species Act of 1996 (NISA) which authorizes the ANSTF to develop efforts to control ANS in a collaborative manner:

"Such control efforts shall be developed in consultation with affected Federal agencies, States, Indian Tribes, local governments, interjurisdictional organizations, and other appropriate entities. Control actions authorized by this section shall be based on the best available scientific information and shall be conducted in an environmentally sound manner."

The goal is to create a Control Plan that identifies elements to guide Federal, Tribal, State and Territorial activities and funding priorities in addition to efforts in which industry, stakeholders and non-governmental organizations can participate.

Implementation and Oversight

The decision on whether to develop a new Control Plan must include the designation of a **Plan Host Entity (PHE)** to work in collaboration with the ANSTF and its members on Control Plan development and implementation. The PHE will name a Plan Manager (PM) to oversee the development of a new Control Plan and work with the ANSTF to identify a Plan Liaison (PL) to keep them informed of an existing Control Plan's implementation. In rare instances, the ANSTF may approve the development of a plan without a PHE, if warranted and appropriate.

A Plan Host Entity (PHE) will:

- Ideally be an organization represented by a Federal or Ex-officio member of the ANSTF. This, however, is not a mandatory requirement, especially if there are no ANSTF member organizations with the proper expertise for the subject species.
- Assist the ANSTF in forming a Control Plan Working Group (CPWG) to develop or revise a Control Plan when necessary. (See Part Two for more info on the CPWG)
- Work with the ANSTF to identify a PL and a PM (as needed).
- Establish collaborative relationships with appropriate ANSTF members and their organizations to identify resources needed to achieve the goals of a Control Plan while adhering to the processes and limitations of their respective organizations.
- Seek partners to advocate for implementation of the work outlined in a Control Plan.

 Assist the ANSTF and the Control Subcommittee with the Control Plan Archival Process when necessary.

The Plan Liaison (PL) position should:

- Preferably be an ANSTF member or a staff member from an ANSTF member organization (Federal, ex-officio, or regional panel member) who can attend ANSTF meetings on a regular basis and facilitate ANSTF engagement.
- Report to the ANSTF (tentatively annually) on the status of a Control Plan's development and/or implementation.
- Act as the link between the ANSTF and a CPWG.
- Not necessarily be involved in Control Plan development/revision.
- Be active for the life of the Control Plan.

The Plan Manager (PM) position should:

- Be a staff person or member of the PHE, if possible/feasible.
- Report progress at ANSTF meetings at the request of the PL, Executive Secretary (ES), or ANSTF co-chairs.
- Manage the CPWG, coordinating the work of developing/writing/revising a Control Plan.
- Possibly be the same person as the PL (but doesn't have to be).
- Be active until the Control Plan (new or revised) that they are managing has been approved.

Geographic Scope of a Control Plan

NANPCA authorizes the ANSTF to create Control Plans, but the Act does not clearly specify what the geographic scope of the plans should be. In general, the ANSTF encourages the development of Control Plans at a National level of focus. More rarely, the ANSTF may become involved in development of or be asked to approve a Control Plan at a more focused Regional level. The differences between the two geographic scopes are shown in the table below.

	National Plans		Regional Plans
Hyd wid • The	e subject species has infested more than one drologic Unit Regions (HUC 2-Digit) ² but is not yet despread across the United States ³ ; or e subject species has a more limited geographic tribution (one or more Hydrologic Unit Subregions –	•	The subject species is confined within one Hydrologic Unit Region, infesting one or more Sub-Regions (HUC 4 Digit) within that Region. The subject species has a has a low climate match in other parts of the United States
	JC 4 Digit)), but there are special circumstances that		outside currently infested locations; or

² The United States is divided into successively smaller hydrologic units (watersheds) which are classified into four levels: regions, subregions, accounting units, and cataloging units. The hydrologic units are nested within each other, from the largest geographic area (regions) to the smallest geographic area (cataloging units). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system (<u>USGS Water Resources</u>: <u>About USGS Water Resources</u>).
³ In some cases, there are non-native species that were 1) introduced unintentionally into the United States

³ In some cases, there are non-native species that were 1) introduced unintentionally into the United States decades ago and are now considered naturalized or 2) were intentionally stocked (and possibly still are) stocked by States or by private entities where permitted. These species, sometimes considered invasive and sometimes not, are often so widespread across the United States that they are considered naturalized. For the purposes of this guidance, these species are <u>usually</u> not considered appropriate for a Control Plan as described herein.

National Plans	Regional Plans
 cause the species to rise to a National level of concern, such as: The species has a high climate match throughout much of the United States. The species has other qualities (potential risk to human health, the economy, navigation, etc.) that could have National implications if it spreads to other parts of the United States. 	 The subject species is causing impacts that are of special concern to a particular Region. May also be appropriate when the subject species is native to a specific area within the United States but invasive in other parts of the country (e.g., rusty crayfish, Spartina grasses).
Serve as a foundation for the development of regional or local plans.	Serve a function to help manage AIS that have not yet become a National concern but can also serve as step-down plans from a National Control Plan.
Require more overarching, higher-level goals, and objectives.	Can have more specific, measurable goals and objectives and well-defined steps more directly tied to on-the-ground implementation.
Describe potential impacts more broadly, at a National level.	May be able to describe species impacts more specifically at the Regional level, connecting them to specific ecosystems and natural resources, but also describing potential impacts if the species continues to spread.
Prioritize the identification of accepted/effective monitoring and surveillance techniques over the identification of specific areas for monitoring.	Will have more specific and potentially different surveillance and monitoring components, including the identification of specific areas for monitoring.
Include broader discussions of control and management focusing on successful methods, critical regions where control may be warranted, and priority actions for at-risk areas that are not yet infested with the subject species.	Can have more refined information on control and management in specific locations within the Region, potential population suppression objectives for specific conservation (or other societal) goals, etc.

Whether a Control Plan is developed at a National or Regional scope will depend on the species, the geographic scale of the infestation, the intent of the entity requesting a Control Plan, and the decisions made by the ANSTF, the PHE, and the CPWG. The ANSTF has the authority to approve a Control Plan regardless of its scope, but the distinction is important in the plan's specific design.

The following guidance for Control Plans is divided into four parts:

- Part 1 A Framework for Determining the Need for an Aquatic Nuisance Species Control and Management Plan.
- Part 2 Development Process for Aquatic Nuisance Species Control and Management Plans.
- Part 3 Required Contents for Aquatic Nuisance Species Control and Management Plans.
- Part 4 Archival Process for Aquatic Nuisance Species Control and Management Plans.

PART ONE:

A Framework for Determining the Need for an Aquatic Nuisance Species Control and Management Plan

Framework Introduction

This framework describes a decision-making process to assist the Aquatic Nuisance Species Task Force (ANSTF) in determining whether to pursue or become involved in the development of a new Aquatic Nuisance Species Control and Management Plan (Control Plan). The ANSTF may become involved in the Control Plan development process in one of three ways:

- The ANSTF may initiate the development of a Control Plan.
- An outside entity may request that the ANSTF consider pursuing the development of a Control
- An entity that is already developing a Control Plan may approach the ANSTF seeking their assistance in the oversight, review, and approval of the plan.

After reviewing the information from the requesting entity, the ANSTF may decide to pursue or become involved in the development of a Control Plan, if the species (or Genus or Family) is a high priority species where a proposed Control Plan would help guide efforts to prevent further spread and lead to successful management. If the species is not a good candidate for a Control Plan, the ANSTF will not be involved in the plan's development or approval.

Control Plan Requests and Criteria for Evaluating Need

Regarding evaluating the need for a Control Plan, Section 1202(e)(2)) of the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA), states:

"The Task Force or any other affected agency or entity may recommend that the Task Force initiate a control effort. In determining whether a control program is warranted, the Task Force shall evaluate the need for control (including the projected consequences of no control and less than full control); the technical and biological feasibility and cost-effectiveness of alternative control strategies and actions; whether the benefits of control, including costs avoided, exceed the costs of the program; the risk of harm to non-target organisms and ecosystems, public health and welfare; and such other considerations the Task Force determines appropriate. The Task Force shall also determine the nature and extent of control of target aquatic nuisance species that is feasible and desirable."

This criterion was used to create the three-phase decision-making process described in Part One of this guidance. The intent was to develop a thought process to assist the ANSTF in the deliberations necessary to determine whether a Control Plan is warranted.

Risk Assessment, Management, and Analysis

Phase 2 of this framework is a risk assessment, conducted, if necessary, before Phase 3, risk management and plan decision-making. However, there is a wide range of definitions for the disciplines of risk analysis, risk assessment, and risk management. This document draws information from the following three sources:

- ANSTF 1996. Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process. Risk Assessment and Management Committee. Aquatic Nuisance Species Task Force.
- National Research Council. 1983. <u>Risk Assessment in the Federal Government: Managing the Process</u>. National Academies Press.
- National Research Council. 2009. <u>Science and Decisions: Advancing Risk Assessment</u>. Washington, DC: The National Academies Press.

For this ANSTF decision making framework, the following definitions apply:

- <u>Risk Assessment</u>: The species-specific estimation of risk inherent in the subject species becoming established in the U.S. This is Phase 2 of this process.
- Risk Management: The pragmatic decision-making process concerned with what to do about the risk in question. This is Phase 3 of this process.
- <u>Risk Analysis</u>: The entire process of risk assessment combined, when necessary, with the
 consideration of the applicable risk management steps needed to mitigate that risk. This
 includes both Phase 2 and Phase 3 together.

Risk analysis is designed to be flexible and dynamic enough to accommodate a variety of approaches to evaluating nonindigenous organism risk depending on the available resources, accessibility of the biological information, and the risk assessment methods available at the time of the assessment.

The ANSTF recommends the risk assessment method used in Phase 2 of the decision-making process adhere to the 2009 National Research Council (NRC) <u>Science and Decisions: Advancing Risk Assessment</u>. However, alternative methods may be implemented with the following stipulations:

- Entities presenting a risk assessment conducted using an alternate method must submit documentation justifying their use and comparing/contrasting the alternate method with that of the 2009 NRC publication.
- The ANSTF reserves the right to request a risk assessment for the species using the 2009 NRC publication if they determine the results of the alternate risk assessment are insufficient or the methodology unsuitable.

Rapid screening processes (see below) – such as the U.S. Fish and Wildlife Service's Ecological Risk Screening Summaries – are useful tools for identifying high priority species to be considered for more detailed risk assessments; they are not, however, considered a substitute for a formal, peer-reviewed, risk assessment.

Rapid Screening and Risk Assessment Resources

Although risk screens cannot take the place of a formal risk assessment, risk screens can be an excellent source for initial information about a subject species for those starting down the risk assessment path. The references risk screens include can provide vital background material for conducting risk assessments. Although the purpose of this document is not to serve as a clearinghouse for sources of

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risk screening and risk assessment info, there are a few select web sites that are worth researching when conducting a species risk assessment. They include:

- Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS) Risk Assessment
 Clearinghouse GLANSIS is single-source hub of information on aquatic invasive species in the
 Great Lakes Region. The risk assessment part of the GLANSIS site includes:
 - Summary descriptions of applicable risk assessment protocols.
 - Completed risk assessments that have been conducted by agencies within the Great Lakes region.
 - Completed risk assessments that have been conducted by jurisdictions outside the Great Lakes for species of interest.
- Great Lakes Panel (GLP) on Aquatic Nuisance Species Risk Assessment Protocols This web site
 links to a document that outlines the current risk assessment protocols in use throughout the
 Great Lakes region and at the Federal level, both in the United States and Canada.
- <u>Ecological Risk Screening Summaries (ERSS) of the U.S. Fish and Wildlife Service</u> ERSSs are
 risk screens (not full risk assessments) that provide a rapid evaluation of a species' potential
 invasiveness based on similarity of a climate match and history of invasiveness. This web site
 allows one to search among the over 1,700 ERSSs, and more are added each year.

Framework for Decision-Making

The framework outlined below is adapted from the 2009 National Research Council (NRC) publication Science and Decisions: Advancing Risk Assessment (Washington, DC; The National Academies Press).

Framework Summary (*Diagram A*)

The framework consists of three phases:

- Phase 1 Problem Formulation and Scoping (*Diagram B*):
 - This phase is a series of questions to determine if enough information exists to warrant a formal request to the ANSTF to pursue or become involved in the development of a new Control Plan.
 - This phase is completed before an entity approaches the ANSTF.
- Phase 2 Risk Assessment (and its Evaluation) (*Diagram C*):
 - This phase is a comprehensive process to determine the risk posed by the subject species, which may include:
 - Evaluation of already existing risk assessments.
 - Development of a new risk assessment:
 - By the entity seeking the development of a Control Plan, or
 - Requested by the ANSTF, followed by an evaluation of existing risk assessments and finding them inadequate.
 - Compilation and summation of existing data in lieu of a risk assessment.

- Note: Although the basic information needed for a risk assessment is listed in this section, comprehensive instructions for completing a risk assessment are beyond the scope of this document.
- Phase 3 Risk Management and Plan Decision-Making (Diagram D):
 - In this phase, the entity seeking the development of a Control Plan makes a formal request to the ANSTF, presenting their risk assessment or pertinent published risk assessment(s) and other information justifying the need for the Control Plan.
 - The ANSTF reviews the risk management and plan development considerations and decides whether to pursue or become involved in the development of a Control Plan.

The 2009 risk analysis process adapted from the National Research Council includes provisions for the involvement of internal and external stakeholders, as appropriate, at all stages of the risk analysis process. For the purposes of this decision-making process, stakeholders should be engaged in Phases 1 and 2 of the process, while Phase 3 is the ANSTF deliberation process.

The following narrative outlines the three phases in greater detail.

Phase 1 – Problem Formulation and Scoping (*Diagram B*)

This phase determines if enough information exists for an entity to approach to request that the ANSTF pursue or become involved in the development of a Control Plan. This includes determination of whether a risk assessment exists for the subject species. This stage is completed before the entity makes the formal request of the ANSTF. It consists of seven steps (Diagram B) in a flow chart format.

Step 1 (A and B)

- The first step in determining whether a Control Plan is warranted is to answer these two questions:
 - Step 1A Question: Is the subject species already established in the United States?
 - If NO If the species is not yet established in the United States, then a Control Plan is not yet needed and the entity requesting the Control Plan should instead be seeking assistance on actions to prevent the species from being introduced into the United States.
 - If YES If the species is already found within the United States, then it may be a control situation depending on the response to question in Step 1B.
 - Step 1B Question: Is rapid response eradication feasible?
 - If YES If eradication through rapid response actions is still a possibility, then the entity requesting the Control Plan should instead be seeking assistance for rapid response measures.
 - If NO If rapid response eradication is not a potential management option, then a situation exists where a Control Plan may be appropriate.

Decision:

o If the response to question 1A is "NO" (species not established) <u>or</u> question 1B is "Yes" (rapid response is feasible) then a control plan is not appropriate.

However, if the response to question 1A is "YES" <u>and</u> the response to question 1B is "NO" – that is the species <u>is established</u> in the United States <u>and</u> <u>eradication in</u> relatively short time is no longer a feasible option, then move to **Step 2**

Step 2

- In the second step, basic information is gathered and reviewed to answer the following questions:
 - Do existing infestations appear to pose a threat to the environment, economy, or human health?
 - o Do the problems associated with existing infestations warrant control?
 - O Do options exist for altering the situation?
- Question: Does the existing information indicate that the species may pose a risk to the
 United States and are control and management options available that could make a
 difference in suppressing the population and preventing the species' spread?
- Decision:
 - If NO If there is <u>insufficient information</u> to answer the questions above, then the
 development of a Control Plan is not warranted, and the decision-making process is
 complete unless new information is discovered later.
 - o If YES If sufficient information exists to answer the questions above, move to Step 3.

Step 3

- This step focuses on whether the existing information gathered in Step Two includes a risk assessment for the species.
- Question: Did the information gathered in Step 2 include a species risk assessment?
- Decision:
 - If NO If a risk assessment <u>does not exist</u>, move to Step 4.
 - o If YES If one does exist, move to Step 6.

Step 4

- If a risk assessment does not exist for the species, this step determines whether there is enough data to warrant development of a Control Plan.
- If the entity seeking the development of a Control Plan believes that enough evidence exists to substitute for a risk assessment, they will be required to summarize the data/evidence to the ANSTF to support their argument.
- **Question:** Is there enough data without a risk assessment to warrant the development of a plan?
- Decision:
 - If NO If there does not seem to be enough data to warrant the development of a Control Plan, move to Step 5.
 - o **If YES** If it is believed that enough data already exists⁴ to warrant the development of a Control Plan without a risk assessment, **Phase 2** (Risk Assessment (and its

⁴ To justify not completing a species risk assessment, information to be included for the risk analysis may include but not be limited to: 1) success in surviving an introduction pathway(s), 2) reproduction and survival in similar environments, 3) damage in similar environments, and 4) failure of authorities to react that resulted in established populations causing substantial damage.

- Evaluation) can be bypassed, and the process moves to **Phase 3** (Risk Management and Plan Decision-making). Here the entity requests the ANSTF to decide whether to pursue the development of a Control Plan.
- Note: It is likely that the ANSTF will review the information and ask for a species risk assessment to be completed before making any decisions.

Step 5

- This step seeks to determine, despite insufficient information for the species, whether there are special circumstances to warrant a request for a species risk assessment.
- If there is a substantial level of uncertainty regarding the species, this may trigger the ANSTF to specifically require the requesting entity to conduct a species risk assessment (**Phase 2**) so that they can render a more informed decision on how to move forward.
- **Question:** Despite insufficient information, are there circumstances that may warrant a request for a species risk assessment?
- Decision:
 - If NO If there is substantial uncertainty, then the development of a Control Plan is not warranted, and the decision-making process is complete unless new information is discovered later.
 - If YES The ANSTF may request the completion of a risk assessment using the NRC 2009 method before they render a decision on whether to pursue or become involved in the development of a Control Plan.

Step 6

- If a risk assessment already exists, this step determines if the results indicate that the species poses a significant risk⁵ to the United States.
- Question: Does the risk assessment indicate high risk to the U.S.?
- Decision:
 - If YES If an existing risk assessment <u>does indicate significant risk</u>, proceed to Phase
 (Risk Management and Plan Decision-making), requesting the ANSTF consider pursuing the development of a Control Plan.
 - o If NO If the risk assessment does not indicate significant risk, then move to Step 7.

Step 7

- This step determines whether there are circumstances that may warrant the development of a Control Plan even if the risk assessment does not indicate a significant risk.
- Question: Are there other circumstances that may still warrant plan development?

⁵ The definition for high (significant) risk is as follows: *High = unacceptable risk – organism(s) of major concern (mitigation is justified)*. This definition originates with the National Research Council's 2009 publication "*Science and Decisions – Advancing Risk Assessment*", which is recommended within this guidance (see page 11). The 2009 publication is the 4th book in a series on risk assessment produced by the National Research Council. The first book "Risk Assessment in the Federal Government" laid the foundation for the subsequent volumes and the definitions from the first book were carried forward with little to no change. This definition was also used in the 1996 ANSF publication entitled "*Generic Nonindigenous Aquatic Organisms Risk Analysis Review Process.*"

• Decision:

- If YES If there are circumstances that warrant the development of a plan, then the
 decision-making process proceeds to Phase 3, requesting the ANSTF consider
 pursuing the development of a Control Plan.
- If NO If there are no special circumstances that warrant the development of a plan, then a Control Plan is not necessary, and the decision-making process is complete unless new information is presented to the ANSTF at a later date.

Phase 2 – Risk Assessment and its Evaluation (Diagram C)

After the determination of whether enough information exists to warrant the development of a Control Plan, a risk assessment may be required if one does not exist. It may be completed in advance by the entity seeking the development of a Control Plan, or the ANSTF may specifically require that the requesting entity conduct a risk assessment to make a more informed decision on how to move forward. Diagram C is a graphic representation of the risk assessment phase which is described below:

Step 1 – Existence of a Risk Assessment

- If a risk assessment already exists, this phase can be bypassed, and the process moves to Phase 3.
- If a risk assessment needs to be completed, the recommended risk assessment process is the method outlined in the 2009 National Research Council publication: <u>Science and Decisions</u>: Advancing Risk Assessment.
- If an alternate risk assessment method is used, at minimum, the information in Steps 2 through 4 below should be considered. However, the information contained below and in the diagram is for illustrative purposes only and is not meant to be in-depth instructions on how to complete a risk assessment.

Steps 2 - 4 - Conduct Risk Assessment

Step 2 C Risk Assessment Planning

- Based on the existing infestations, what information is necessary to characterize risks of existing infestations?
- Can the effects of the risk on proposed actions (plan versus no plan) be characterized?
- What level of uncertainty is acceptable?

Step 3 - Risk Assessment and Characterization

- Impact Identification What adverse environmental, ecosystem, or health effects are associated/anticipated with this species?
- Feasibility of Control⁶ What kind of control may be needed? Is it all-encompassing or is it one specific control effort? Are the recommended control methods economically feasible?

⁶ Including aspects of invasive species control in a species risk assessment is notable because control is not usually considered during the risk assessment, but instead during risk management. The ANSTF, however, has a long history of supporting risk analysis consisting of both assessing risk and managing risk which started with the publication of its 1996 report "Generic Nonindigenous Aquatic Organisms Risk"

What regulatory requirements must be implemented? What are the Federal, Tribal, State, Territorial, or local agencies that must be contacted? What are the steps required to complete environmental assessments and acquire permits? What is the time or cost requirement to achieve regulatory approval?

- Cost/Benefits Analysis Do the benefits of control, including costs avoided, exceed the costs of the program? Is the cost to control the species justifiable?
- Non-Target Risks What is the risk of harm to non-target organisms and ecosystems, public health, and welfare?

Step 4 – <u>Evaluation/Confirmation</u>

- Has the species risk assessment been peer-reviewed?
- Does the species risk assessment have the information proposed during the planning of the risk assessment?
- Does the species risk assessment provide adequate information to inform the risk management options (plan development versus no plan development)?
- Does the species risk assessment support the implementation of the recommended risk management actions?

Once a risk assessment has been completed, peer-reviewed, and evaluated, the decision-making process can move to Phase 3.

Phase 3 – Risk Management and Plan Decision-making (Diagram D)

In this final phase, the ANSTF is formally petitioned, reviews the relevant information, and decides whether to pursue or become involved in the development of a new Control Plan or participate in one already under development.

Step 1 - Official Request to the ANSTF

- At an ANSTF meeting, an external entity or an ANSTF member requests that the ANSTF consider pursuing or becoming involved in the development of a Control Plan. This should include whether the requesting entity is presenting the scope of the plan for National or Regional implementation.
- **No Risk Assessment** If the data presented to the ANSTF <u>does not</u> include a risk assessment, is the data strong enough to support the decision on whether to develop a Control Plan?
 - o **If YES** then proceed with Step 2 of this Phase: ANSTF Data Deliberations.
 - If NO then the ANSTF should consider requesting the completion of a species risk assessment. [Move back to Phase 2 – Risk Assessment]
- **Existing Risk Assessment** If the data presented to the ANSTF <u>does</u> include a risk assessment, does it contain sufficient information for the ANSTF to make a decision?
 - o **If YES** then proceed to Step 2 of this Phase: ANSTF Data Deliberations.
 - If NO ANSTF should consider requesting additional information is necessary to decide if a Control Plan is needed.

Analysis Review Process" (based upon the 1983 National Research Council publication). Including aspects of risk management in a risk analysis further assists the ANSTF's decision-making.

Step 2 - ANSTF Data Deliberations

 Once the ANSTF determines that it has sufficient information to proceed, the ANSTF should consider the following:

• Risk Management Considerations

- If there are existing control methods for the species, what are the human health or environmental issues that need to be considered?
- How do other decision-making factors (technology, regulations, costs) affect the proposed options (plan development versus no plan development)?

• Plan Development Considerations

- o What is the relevant/appropriate geographic scope of the Control Plan?
- Is there a Plan Host Entity (PHE) that can provide oversight on the implementation of the Control Plan and assist with the identification of a Plan Liaison (PL) and Plan Manager (PM) for the new Control Plan?

Step 3 – ANSTF Decision

Decision Factors

- After reviewing the information from the requesting entity, including risk assessments, the
 ANSTF <u>may decide</u> to pursue or become involved in the development of a Control Plan. The
 decision is not taken lightly by the ANSTF as it requires substantial effort in collaboration
 among many partners, and ultimately, the Control Plan must be published in the Federal
 Register for public comment. As such, the ANSTF must be confident in the following decision
 factors:
 - The species (or possibly a Genus or Family) in question is a high priority species causing significant impacts that truly warrants a National or Regional Control Plan.
 - A proposed Control Plan could:
 - Be a useful tool to help guide efforts to prevent further spread and lead to successful population suppression to achieve other conservation or societal goals, and
 - Serve as guidance and reference for the development of more focused State,
 Regional, or other more geographically focused species-specific control plans.
 - A PHE is available and has designated a PM to manage the development of the plan, and once the plan is complete, has designated a PL to interact with and keep the ANSTF informed of the plan's implementation.

• ANSTF Decision

- What is the decision, and its justification, considering benefits, costs, and uncertainties in each option? (plan versus no plan).
- o How should the decision be communicated?
- Is it necessary to evaluate the effectiveness of the decision? If so, how should this be done?
- All entities and stakeholders understand that the development and approval of a Control Plan does not come with guaranteed funding for implementation. Funding would need to be sought through the Federal budget process or from other sources, and by an entity other than the ANSTF.

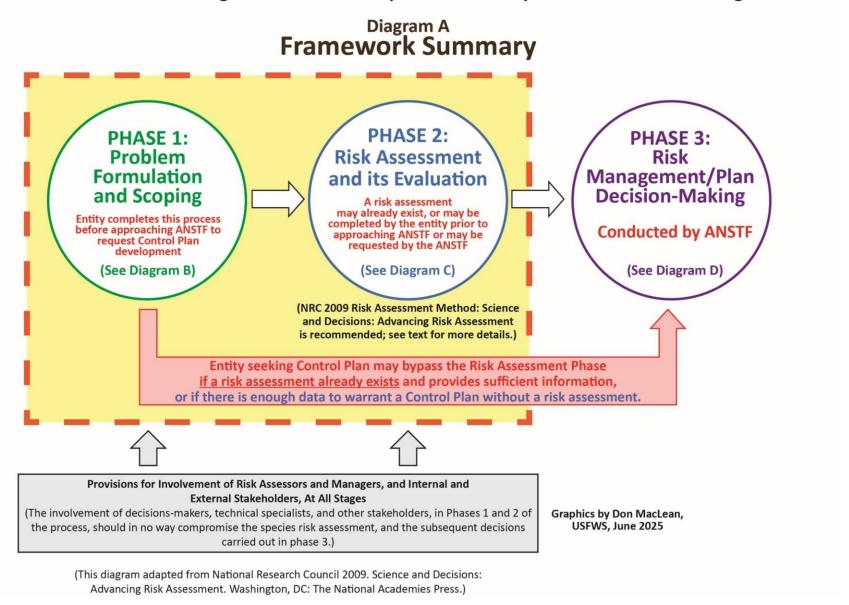
PART ONE: Control Plan Decision-making Framework Guidance for ANS Control and Management Plans, ANSTF June 2025

Next Steps

Once it has been decided that a Control Plan is warranted, the second and third parts of this guidance become relevant:

- Part 2 Development Process for Aquatic Nuisance Species Control and Management Plans.
- Part 3 Required Contents for Aquatic Nuisance Species Control and Management Plans.

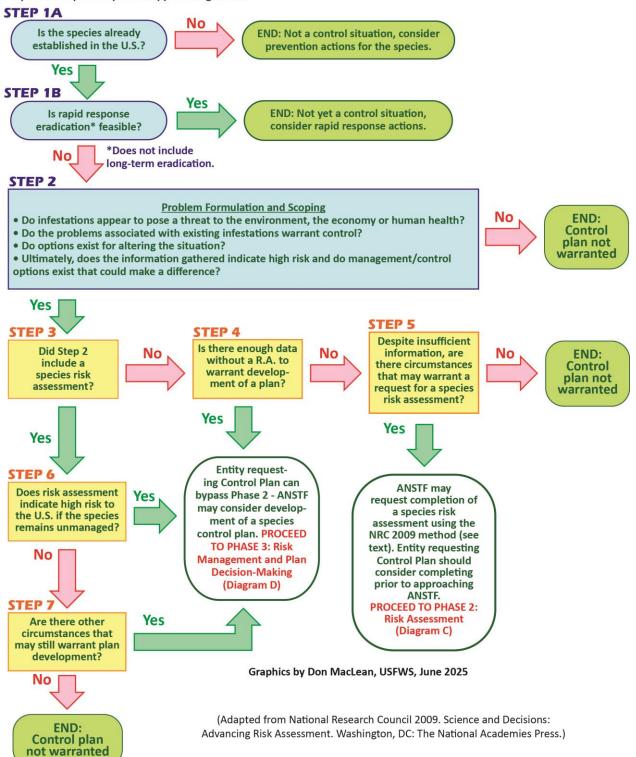
A Framework for Determining the Need for an Aquatic Invasive Species Control and Management Plan



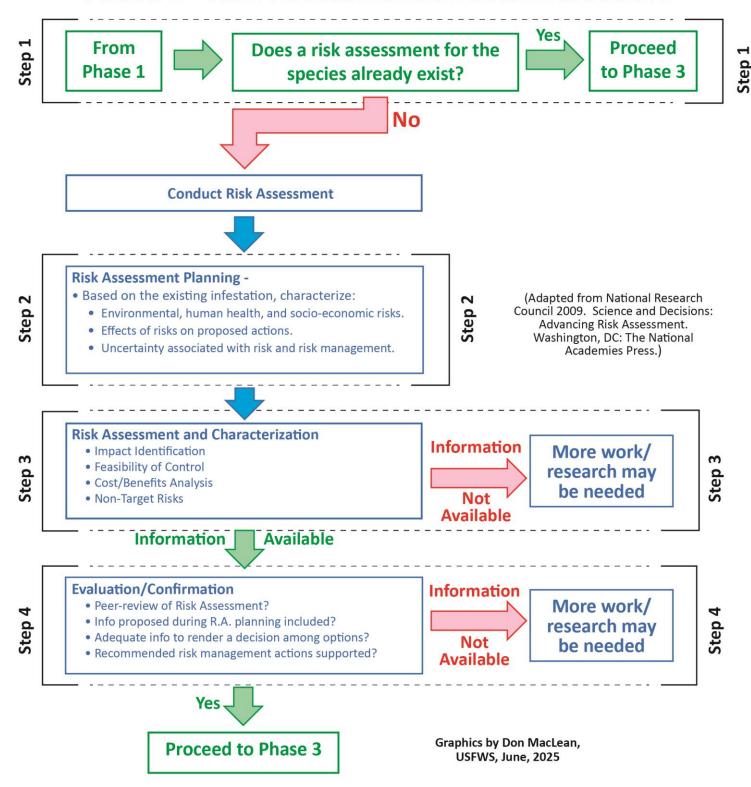
Phase 1 - Problem Formulation and Scoping

START

Entity seeking development of a control plan completes this process prior to approaching ANSTF.

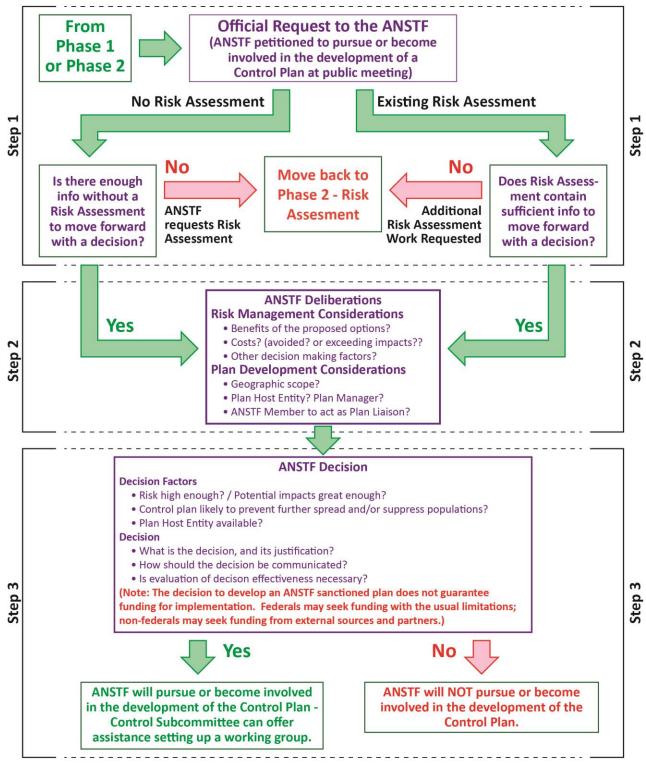


Phase 2 - Risk Assessment and its Evaluation



(Part of a Framework to Determine the Need for an Aquatic Invasive Species Control and Management Plan

Phase 3 - Risk Management and Plan Decision-Making



(Part of a Framework for Determing the Need for an Aquatic Invasive Species Control and Management Plan)

(Adapted from National Research Council 2009. Science and Decisions: Advancing Risk Assessment. Washington, DC: The National Academies Press.)

Graphics by Don MacLean, USFWS, June, 2025

PART TWO: Development Process for Aquatic Nuisance Species Control and Management Plans

Once the decision is made that a new Aquatic Nuisance Species Control and Management Plan (Control Plan) is warranted and a Plan Host Entity (PHE) has been identified, the Aquatic Nuisance Species Task Force (ANSTF) will work with the PHE and the Control Subcommittee to form a Control Plan Working Group (CPWG).

Control Plan Working Group Formation Process

- The PHE, led by the Plan Liaison (PL) and Plan Manager (PM), will work with the Control Subcommittee, the Executive Secretary (ES) and the ANSTF Co-chairs to establish the CPWG that will develop the Control Plan. (See Introduction, pages 7-8, for descriptions of the PL and PM)
- CPWG will be participants sought from among ANSTF members (Federal and Ex-officio), ANSTF Regional Panel members, other Federal agencies, States, Tribes, Territories, local governments, interjurisdictional organizations, industry, academia, NGOs, and any other entities with appropriate expertise.
- A list of interested CPWG members is generated and submitted to the ES to inform the ANSTF Co-chairs.
- If necessary to secure participants, letters of invitation can be distributed by the PHE/PM, ES, or ANSTF Co-chairs (formal or informal, depending on participants' needs).

Development Process for ANS Species Control and Management Plan

After the CPWG has been initiated, development of the Control Plan can begin, following these steps:

- 1. Draft Control and Management Plan Development
 - A meeting or conference call is held to open discussion on the process and intent of the Control Plan. In-person meetings are recommended; however, the primary method of communication in developing the plan content will likely be e-mail, teleconferences, and online meetings (e.g., Microsoft Teams, Zoom, etc.).
 - It is also strongly recommended that the CPWG provide presentations at meetings of all the geographically relevant ANSTF Regional Panels
 - Information from CPWG members necessary to develop the Control Plan (contact information, research articles, agency reports, data, etc.) is compiled and made available to all CPWG members.
 - The draft Control Plan may be developed primarily by the PM (with the information provided by CPWG members) or the CPWG members may write sections of the plan, which is compiled and edited (for readability) by the PM or another designated technical editor.
 - The draft Control Plan is sent to CPWG members for review and comment. If shared with outside subject matter experts during development, the document must be clearly marked as a draft
 - The draft plan is sent to the Co-Chairs, ES, and the Control Subcommittee for preliminary review and comment in a digital format (preferably both in Word and PDF format).

2. Seeking Public Comment.

- Once the ES, Control Subcommittee, and PM are satisfied the draft Control Plan is ready for ANSTF review, the draft Control Plan is submitted by the ES to ANSTF members and Regional Panels at least 30 days prior to an ANSTF meeting. At approximately the same time, the draft Control Plan is posted on the ANSTF website by the ES. This allows the public to review the document that will be under consideration by the ANSTF at the upcoming ANSTF meeting in case they wish to make comments during the public comment portion of an ANSTF meeting. Once posted on the website, the link to the draft Control Plan can be openly shared.
 - Public comments specifically related to the ANSTF approval/disapproval of the draft Control Plan's publication in the Federal Register (FR) should be addressed to the ANSTF in writing prior to or during the ANSTF meeting where the plan is being considered for ANSTF approval (see Step 3).
- The PM/PL or a CPWG member presents the draft Control Plan elements to the ANSTF at the ANSTF meeting.
- The ANSTF deliberates on the draft Control Plan, requests changes, or approves the draft Control Plan for public comment.
- The ANSTF-approved draft Control Plan is submitted for public comment in the Federal Register.
 The ES routes the FR notice through appropriate surname process and notifies ANSTF members,
 Regional Panels, U.S. Fish and Wildlife Service Regional AIS Coordinators, and the PL and PM
 when the Control Plan is available for public comment (approximately 30 days after submission).
- After the FR public comment period, and <u>before</u> ANSTF approval of the final Control Plan, the CPWG has 180 days to consider and respond to public comments and revise the draft Control Plan (see section 1202(e)(3) in the National Invasive Species Act), as appropriate. The ES and the CPWG assist the PM in responding to public comments.
- 3. The final Control Plan is submitted to the ES for preliminary review and comment, preferably in Word (editable) and PDF (non-editable) formats.
- 4. Once the ES and PM are satisfied that the final Control Plan is ready for ANSTF review, it can be submitted by the ES to the ANSTF prior to an ANSTF meeting.
- 5. The PM or a CPWG member presents a summary of public comments received that helped shape the Control Plan's development and changes made to the final draft Control Plan to the ANSTF (at an ANSTF meeting).
- 6. The ANSTF deliberates on the final draft Control Plan and approves it, or if edits are needed, conditionally approves the Control Plan pending incorporation of requested changes. If the changes are significant, the ANSTF may wish to review the Control Plan again before voting on final approval.
- 7. Once the final draft Control Plan is approved by the ANSTF, it becomes a final Aquatic Nuisance Species Control and Management Plan. ANSTF members may begin implementation. After any final edits or formatting are managed, the Control Plan will be posted to the ANSTF website and can be distributed as appropriate.
- 8. The ANSTF will work with the PHE (and the CPWG) to form an advisory group to seek implementation and provide oversight of the Control Plan. This should include working with ANSTF

PART TWO: Control Plan Development Process Guidance for ANS Control and Management Plans, ANSTF June 2025

members and its Regional Panels, other Federal entities, Tribes, States, and Territories, to implement Control Plan actions, conduct research, and pursue funding (within proper sideboards and limitations).

- 9. The PL should provide an annual update to the ANSTF on implementation of the Control Plan.
- 10. The PHE should evaluate the Control Plan on an approximate 5-year basis to determine if a revision is necessary. If a Control Plan is determined to need a revision, the PHE should designate a PM to oversee the process.
- 11. If at some point the PHE determines that a Control Plan is no longer needed, the ANSTF must be notified, and the Control Plan should be evaluated for Archival. See PART FOUR Archival Process for Aquatic Nuisance Species Control and Management Plans.

Please refer to Part 3 – Required Contents for Aquatic Nuisance Species Control and Management Plans – for the list of required information that must be addressed in a Control Plan.

PART THREE: Required Contents for Aquatic Nuisance Species Control and Management Plans

Aquatic Nuisance Species Control and Management Plans (Control Plans) are not required to have a specific organization of content (as long as all the content outlined below is included); however, a suggested organization type is to have a core plan that could remain valid for a longer time with associated appendices that can be readily updated as needs change. Plans should be succinct and not excessively long to convey the required content listed below. Those developing a proposed Control Plan should work closely with the ANSTF, including adherence to this guidance document, to ensure that their proposed plan meets the standards required for ANSTF approval.

Control Plans must be compliant with Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d; standards on electronic accessibility). For details, see DOI guidance on 508 compliance:

- 375 DM 8, Section 508 Program and Responsibilities https://www.doi.gov/ocio/policy-mgmt-support/information-and-records-management/section-508-policies
- Accessible Electronic Document Community of Practice Section 508 Basic Authoring and Testing Guide - https://www.section508.gov/create/documents

The following list of information must be addressed in a Control Plan.

- Executive summary
- Introduction
- Justification for the Control Plan
 - Why the Control Plan is needed
 - Summary of current infestation and potential for spread
 - o Potential impacts of the species (not much detail here, more below)
 - Include a risk assessment summary
 - o Geographic scope of the Control Plan (related to distribution listed below)
 - National or Regional? See page 8 earlier in this guidance.
- Summary of the Control Plan goal(s)
- Details on known distribution/range
- Potential pathways of introduction for entering the United States and for range expansion
- Summary of the biology/natural history of species
- Overview of potential ecological, economic, and health impacts of new introductions or established population(s)
- Summary of ongoing activities
 - Including efforts of ANSTF members (Federal and Ex-officio), Regional Panels, States,
 Tribes, Territories, local governments, and municipalities, academia, and industry.
- Scope of agency authorities for species
 - Existing State and Federal regulations
 - Identified gaps and potential solutions
- Objectives, strategies, and "action" items organized by common themes:
 - o Preventing introduction and secondary spread
 - Early detection/rapid response to new introductions
 - Including, when appropriate, reference to the Incident Command System for responding to new infestations

PART THREE: Required Control Plan Contents Guidance for ANS Control and Management Plans, ANSTF June 2025

- o Control and management of established populations, including:
 - Evaluation of the need for control; projected consequences of no control and less than full control
 - Technical and biological feasibility and cost effectiveness of alternate control strategies and actions
 - Whether benefits of control, including costs avoided, exceed the costs of the program
 - Risk of harm to non-target organisms and ecosystems, public health, and welfare
 - Identification of specific control actions as appropriate
 - including, if possible, a summary consideration of the environmental compliance (Federal and State) that may be needed to complete recommended actions
- Monitoring (existing populations for range expansion) and surveillance (introductions that are new to the country, or a significant jump from an existing population.)
- Research An overview of what has been done and what is needed for control and management
- Ongoing education and outreach efforts specific to the species (not general efforts that target all invasives)
- Information access and data management
- Implementation plan and outline for prioritized action items
 - o Ranked priorities E.g. high, medium, low
 - Stages/phases Short-term and long-term needs
 - Estimated costs and funding
- How the Control Plan should be evaluated
 - o Metrics How will progress be measured?
 - Reporting The Plan Liaison (PL) or Plan Manager (PM) identified earlier in the Control Plan development process should report on the progress and the needs of the Control Plan on an annual basis.
 - Adaptive Management Incorporate adaptive management strategies to assist with later revisions
- Summary
- List of Control Plan Working Group members, as well as the Plan Host Entity, PM, and PL.
- Other appendices as appropriate

PART FOUR: Archival Process for Aquatic Nuisance Species Control and Management Plans

Over time, the situation may arise where an existing Aquatic Nuisance Species Control and Management Plan (Control Plan) is no longer needed. In this case, the Control Plan will be assessed to determine if it should be archived. The intent is for this to be a thoughtful process, considered by the Plan Host Entity (PHE), the Aquatic Nuisance Species Task Force (ANSTF) and the Control Subcommittee.

An archived plan may no longer be in use but may still have operational or historical value. In addition, if a Control Plan is archived and then found to be needed again later, it can certainly be resurrected with the understanding that a revision would be required.

An archived plan is a plan that is no longer being used to help guide the management of an invasive species, and/or contains information that is outdated. However, the plan will still be available on the ANSTF web site for historical purposes.

Control Plan Archival Process

- The PHE provides a recommendation to archive an approved Control Plan to the ANSTF.
 - For older Control Plans, prior to the development of this guidance and archival process, this
 recommendation will most likely come from the Control Subcommittee or possibly the Plan
 Liaison (PL) if one has been designated.
- Factors that will be considered in archiving a Control Plan shall be based upon:
 - The age⁷ of the Control Plan with no revision in-progress or warranted
 - The Control Plan is not being used directly or indirectly as foundation and source material for regional step-down plans
 - The subject species is not spreading or causing the predicted impacts
 - Other unforeseen circumstances
- The PHE (or Control Subcommittee), with the help of the PL, will inquire with the following to determine if any of the factors to archive the Control Plan have been met:
 - Federal and Ex-officio Members of the ANSTF
 - o Regional Panels of the ANSTF
 - o U.S. Fish and Wildlife Service Aquatic Invasive Species Regional Coordinators
 - Other Federal entities, Tribes, States, Territories, counties, municipalities, and academia known to be conducting work (surveillance, monitoring, management, research, education and outreach) on the subject species to determine if there are concerns with the Control Plan being archived.
- The result of the inquiries should be documented in a summary report that outlines ongoing activities and past activities that met the needs of the Control Plan to justify the archival request. This report should also include information, where available, about what activities will continue, and by what agency/organization, in the absence of a formal Control Plan if the relevant plan is archived.
- Once the inquiries are complete:

⁷ With widely varying circumstances between each Control Plan the ANSTF will determine when a plan is outdated. However, as a rule of thumb, a Control Plan will not be considered for archival that is under 10 years old.

PART FOUR: Control Plan Archival Process Guidance for ANS Control and Management Plans, ANSTF June 2025

- o If there are <u>no objections</u> to archive a Control Plan, then the PHE (or Control Subcommittee) will seek approval from the ANSTF to officially archive the Control Plan.
- o If objections to archive a plan are encountered, then the differing views must be captured and brought before the ANSTF for discussion.
 - If the objections result in the plan NOT being archived, there is a strong possibility that the ANSTF will seek a revision of the Control Plan to bring it up to date to include current information (range of infestation, current activities, relevant research, new techniques for surveillance and management, etc.) for the subject species.
- An archived Control Plan will be available on the ANSTF website in a place where the "archived" status is clearly explained, but where the plan can still be accessed for inspiration or research.
- Archiving a Control Plan does not invalidate any ongoing funding or work being conducted on the subject species.



This ends the Guidance for Aquatic Nuisance Species Control and Management Plans

