# Appendix 4. Dreissenid Mussel Prevention Program Template

**Title**Agency
Date

## Purpose

Suggested base language: *This document was developed to guide the development and implementation of a program to prevent the introduction of dreissenid mussels into XXX waterbody managed by XXX agency.*

## Introduction

The introduction should provide the context for the prevention program and, at minimum, include descriptions of the following:

***Regulatory Setting***

* Description of the primary managing agency, management goals, role, and authorities
* Describe any and all agencies that have roles in management of the waterbody or activities that take place at the waterbody, and a description of those roles

***Environmental Setting***

Identify and describe each waterbody addressed in the program with sufficient detail for CDFW to understand the pathways that pose a risk for the introduction of dreissenid mussels and potential management actions that could be implemented to address them. Details should include:

* Specific geographic location, including County
* Proximity to dreissenid-infested waters
* Size of the waterbody (e.g. volume, area, etc.)
* Facilities and access points
* Points of inflow and outflow of water
* How the water is managed
* Recreation permitted and prohibited
* Existing management of recreation (staffing, gate, kiosk, hours/seasons of operation, landing zones, etc.)
* Data on public usage
* Any additional information that relates to movement and contact with the water

## Assessment of Vulnerability

Describe the process used to assess the vulnerability of the waterbody for the introduction of both adult and juvenile dreissenid mussels. If using the guidance document preceding this template, the following general text is suggested, and may be modified or customized as desired:

*“The vulnerability of the waterbodies was assessed by evaluating all natural processes and human activities that may serve as pathways by which dreissenid mussels may be introduced into the waterbody. These pathways included all movement of water and contact with the water, and are defined at a level of detail appropriate to identify actions necessary to avoid or mitigate the introduction of dreissenid mussels. The following tables identify each pathway, describe their characteristics, and identify possible management actions that can be taken to address them. Selected management actions that will be implemented are identified in ‘Management of Recreational Activities, Including Public Education and Outreach,’ below.”*

Pathways can be presented for each waterbody, system-wide, or a combination of the two when there are pathways that are common among multiple waterbodies, and others that are unique to individual waterbodies covered in a single prevention program. How this information is presented is entirely at the author’s discretion; however we request that it be clear which pathways apply to which waterbody. The following table is a simplistic example of how a pathway assessment can be presented:

**Example: Pathway assessment**

|  |  |
| --- | --- |
| **Pathway:** | Pleasure boating (no fishing from watercraft); includes motorized and non-motorized |
| **Who:** | The public |
| **What:** | Boaters come from throughout the state for day-use boating; many visitors are local residents |
| **Where:** | Happy Valley Lake; north and south boat ramps with self-service pay kiosks |
| **When:** | Open for boating year-round; visitation highest May-October from sunrise – dusk. |
| **Current efforts to prevent or mitigate an introduction:** | None |
| **Potential management options to prevent or mitigate an introduction:** | * Watercraft inspection program for all watercraft (install gates, limit access hours)
* Offer banding for returning boats to expedite launching; facilitates local users
* Self-serve decontamination unit on-site
* Limit boating season to highest use times
 |
| **Education and outreach opportunities:** | * Conversation preceding and during inspection will convey information
* Post informational poster and handouts on kiosks
* Post permanent metal signs at each boat ramp
 |

**Monitoring Program for Adult and Juvenile Dreissenid Mussels**

Describe the monitoring that will be implemented in sufficient detail to allow CDFW to assess its adequacy. At minimum, for each waterbody identify the specific location within the waterbody, the method(s) that will be used, the protocols that will be used, and the approximate dates/frequency. If the monitoring protocol(s) that will be used are not CDFW’s, then include the protocol used as an appendix to the plan. If monitoring or sample analysis will be conducted by a partner agency, identify whom, and what methods will be used.

The monitoring program can be described in a table or narrative, or a combination of both. A suggested table format follows but should be adapted as needed.

**Example: Monitoring plan table**

**Waterbody:** Happy Valley Lake

| **Monitoring Method** | **Location(s)** | **Dates** | **Frequency** | **Agency** |
| --- | --- | --- | --- | --- |
| Plankton sampling | 1. North boat ramp
2. South boat ramp
3. Dam
4. Outlet
5. Happy Valley Marina
6. Floatable Port-a-potties
7. Rush Creek inlet
 | May – October | Twice per month | Plankton sampling: Happy Valley Water DistrictSample analysis: CDFW- Bodega Shellfish Health Lab |
| Surface surveys | 1. North boat ramp and dock
2. South boat ramp and dock
3. Full length of dam from surface to 3’ below surface
 | May – OctoberMay – OctoberYear-round | Once per month | Happy Valley Water District |
| Artificial substrates | 1. Sheriff boat dock
 | Year-round | Once per month | Happy Valley Water District |

## Management of Recreational Activities, Including Public Education and Outreach

This section should identify the specific management actions selected from the pathway analyses that will be implemented to prevent the introduction of dreissenid mussels. How the management action will be implemented should be explained in detail, its role in preventing the introduction of dreissenid mussels, and the pathway(s) it addresses. If partner agencies will be responsible for implementing actions, the agency and their role should be identified. If actions contained in the prevention plan are not currently being implemented, the date that they are anticipated to begin should be provided. If actions are discrete or anticipated to cease, their date of completion should be included in the plan as well.

If all measures identified in the vulnerability assessment are not implemented, this section should explain the process used to prioritize those actions that will be implemented, and what factors and criteria were used in determining these priorities.