

Maritime Biosecurity and Invasive Species Management Course

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Overview

Maritime Biosecurity and Invasive Species Management Course is a one-week intermediate course for port authorities, vessel operators, environmental teams, and maritime compliance personnel, who leave with a Maritime Biosecurity Risk and Response Plan. Participants manage invasive aquatic species pathways through ballast water, sediments, biofouling, vessel and port inspection, monitoring, records, incident response, and coordination. Agile Leaders Training Center presents maritime biosecurity and invasive species management.

Who Should Attend

- Personnel responsible for port and vessel environmental controls
- Teams responsible for ballast water and biofouling management
- Inspectors responsible for vessel records, condition, and compliance evidence
- Environmental personnel responsible for surveillance and invasive-species response
- Maritime managers responsible for risk, contractors, and cross-agency coordination

The course assumes participants can interpret vessel procedures and environmental risk information, and it leaves laboratory taxonomy, treatment-system engineering, and jurisdiction-specific enforcement outside its scope.

Departments and Industries

The course supports departments and sectors that prevent and manage biological transfer through maritime activity.

- Ports, terminals, and harbor authorities
- Shipping companies and vessel operations
- Offshore energy and marine service providers
- Environmental protection and biodiversity functions
- Ship repair, inspection, and hull-maintenance services

Learning Objectives

By the end of this course, participants will be able to:

- Analyze invasive aquatic species pathways and consequences.
- Apply ballast water and biofouling management controls.
- Build vessel and port biosecurity risk profiles.
- Evaluate plans, records, inspections, and monitoring evidence.
- Prioritize alerts, response actions, and stakeholder coordination.
- Build a Maritime Biosecurity Risk and Response Plan.

Course Agenda

Day 1: Map Maritime Biosecurity Pathways

- Invasive Aquatic Species Pathway and Consequence Map
- Ballast Water, Sediment, and Biofouling Transfer Model
- Vessel, Port, Contractor, and Authority Responsibility Matrix
- Environmental Receptor and Exposure Assessment Tool
- Maritime Biosecurity Governance and Information Flow Chart

Day 2: Control Ballast Water Risks

- BWM Convention Requirement and Applicability Checklist
- Ship-Specific Ballast Water Management Plan Review
- D-1 Exchange and D-2 Performance Decision Guide
- Ballast Water Record Book Evidence Matrix
- Challenging Water Quality and Contingency Control Plan

Day 3: Manage Biofouling Pathways

- Vessel Biofouling Management Plan Framework
- Biofouling Record Book and Maintenance History Review
- Niche Area, Hull, and Marine Growth Risk Profile
- Inspection, Cleaning, and Waste-Control Decision Matrix
- Current IMO Biofouling Guidelines Assurance Checklist

Day 4: Inspect, Monitor, and Respond

- Vessel and Port Biosecurity Inspection Plan
- Risk-Based Sampling and Monitoring Design
- Species Alert, Verification, and Escalation Protocol
- Maritime Biosecurity Incident Command and Notification Map
- Noncompliance, Root-Cause, and Corrective-Action Register

Day 5: Practice Maritime Biosecurity Management

- Suggested Exercise: Profile a Vessel Biosecurity Risk
- Suggested Exercise: Review Ballast Water Records and Controls
- Suggested Exercise: Evaluate a Biofouling Inspection Finding
- Suggested Exercise: Coordinate an Invasive-Species Alert
- Capstone Exercise: Complete a Maritime Biosecurity Risk and Response Plan

Practical Exercises

The course uses suggested activities based on vessel arrivals, ballast operations, hull condition, port monitoring, and biological alerts.

- Suggested activity: map shipping pathways, environmental receptors, responsibilities, and information requirements.
- Suggested activity: review a vessel plan, record book, exchange or treatment evidence, and contingency actions.
- Suggested activity: assess hull and niche-area condition, maintenance evidence, cleaning decisions, and waste controls.
- Suggested activity: verify a biological alert, assess exposure, coordinate response, and define monitoring and corrective actions.

FAQs

Who suits maritime biosecurity and invasive species management training, and what does it assume?

Maritime biosecurity and invasive species management training suits port teams, vessel operators, environmental personnel, inspectors, and maritime managers. It assumes experience interpreting vessel procedures and environmental risks.

How does maritime biosecurity training differ from marine pollution training?

Maritime biosecurity training focuses on biological transfer through ballast water, sediments, and biofouling. Marine pollution training generally addresses discharges, waste, oil, chemicals, sewage, or air emissions.

Why are ballast water and biofouling managed as maritime biosecurity pathways?

Ballast water and biofouling can transport organisms and pathogens between environments. Management reduces the likelihood that transferred organisms establish, spread, and harm ecosystems, resources, or operations.

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What evidence supports a vessel biosecurity risk profile?

A vessel biosecurity risk profile uses voyage history, operating areas, ballast records, management-system status, hull and niche-area condition, maintenance history, previous findings, and destination sensitivity.

How should ports respond to a suspected invasive aquatic species alert?

Ports should protect evidence, verify the report, assess pathways and exposure, notify responsible parties, coordinate technical advice, select proportionate controls, document decisions, and monitor outcomes.

Conclusion

Participants take back a Maritime Biosecurity Risk and Response Plan. It combines pathway analysis, ballast water, biofouling, vessel profiles, port controls, inspection, monitoring, alerts, response, records, and corrective action. The plan changes separate environmental checks into a coordinated system for reducing biological transfer and documenting proportionate decisions.

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