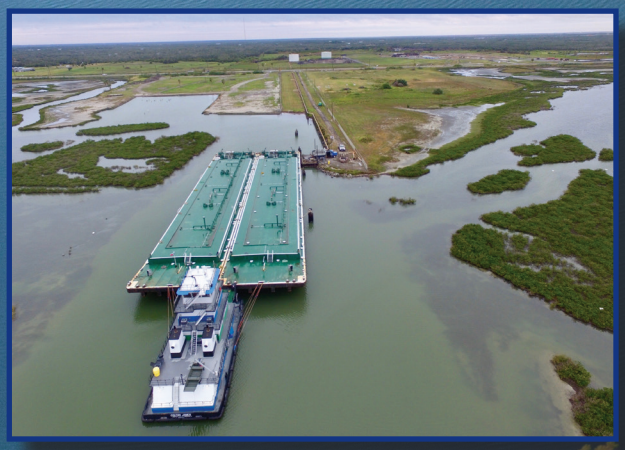
The American Waterways Operators

VOLUNTARY ENVIRONMENTAL STEWARDSHIP BEST PRACTICES

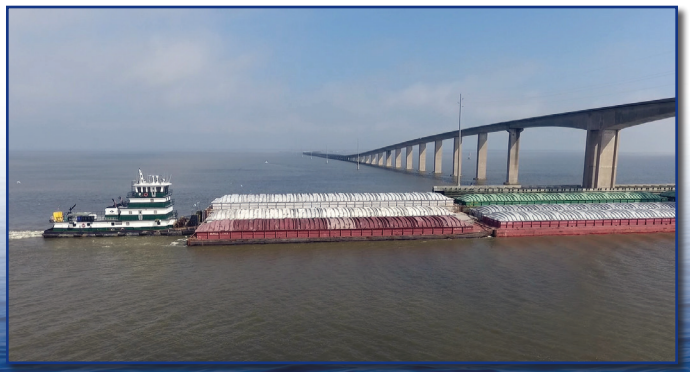


OVERVIEW

The American Waterways Operators seeks to enhance the environmental performance and sustainability of the tugboat, towboat and barge industry. In pursuit of that goal, AWO's Environmental Stewardship Working Group has developed a set of voluntary best practices to inform, support and guide industry in the areas of water quality, energy efficiency, air quality, waste management, and corporate responsibility. These best practices, approved by AWO's Board of Directors, are drawn from member input, as well as industry quality assurance programs and practices put in place in other segments of the maritime industry. In addition to helping the industry reduce its environmental footprint, these best practices will help tell the story of how AWO members – already part of the nation's safest, most environmentally responsible mode of freight transportation – go beyond the regulatory baseline to preserve and protect the natural environment.

This is particularly important as the maritime industry confronts the challenges and opportunities posed by the accelerating global drive for decarbonization to mitigate climate change. These best practices include measures, as well as links to tools and guidance developed by the U.S. and the International Maritime Organization, that may help AWO members looking for ways in which they can build on the natural efficiency of waterborne transportation to further reduce their greenhouse gas emissions.

AWO recognizes that member companies already have environmental policies and procedures and operate in compliance with environmental regulations. Some companies are going further, considering how to reinforce sustainability across every business function. Whatever a company's approach, these best practices are designed to help member companies consider the varied actions they can take to enhance environmental stewardship, from small steps to major investments.



Recognizing that tugboat, towboat, and barge operations vary widely across the industry, these best practices are not intended to be a "one-size-fits-all." There may be practices that are infeasible or inappropriate for companies to implement due to location, sector, operations, or costs. As companies consider integrating new practices into their existing environmental program, they may also consider implementing adaptive and preventative actions, for both vessels and shoreside facilities, to achieve a comprehensive, sustainable approach. Initial and ongoing employee training on government regulations and company policies and procedures are also key to attaining and maintaining safe and environmentally friendly operations. AWO will continue to work with members to improve and build on these best practices to support industry environmental protection efforts.

AWO member companies are proud to be part of an industry that is the safest and most fuel efficient of any transportation mode. While abiding by all applicable regulations, the tugboat, towboat and barge industry is committed to building on the natural advantages of marine transportation, protecting the natural environment, and taking measurable actions to reduce environmental impact. AWO's environmental stewardship initiative is intended to support members in exceeding regulatory minimums by developing voluntary best practices that are transparent, scalable, and measurable. These best practices will advance environmental performance and sustainability in key areas while also allowing for the tugboat, towboat, and barge industry to excel in a hyper-connected, multi-modal transportation system amid evolving government, customer and public expectations.

Disclaimer:

These best practices are voluntary and are not intended to be a recitation of regulatory requirements mandated at the federal, state, or local level. They do not constitute an exhaustive catalogue of all environmental best practices that a company could undertake, nor are they intended to supplant existing environmental policies and procedures. Each company must determine its own operational needs and the range of environmental measures necessary to protect its employees, the public, and the environment.

WATER QUALITY ▶ PROTECT WATERWAYS FROM SPILLS, HARMFUL DISCHARGES, AND OTHER CONTAMINANTS

Preventing and Responding to Oil Spills

- Use the ***AWO Safety Statistics Reporting Program*** to benchmark the company's number and volume of spills against its operating sector(s) and the industry to determine trends and take action where appropriate.
- Regularly review and, as necessary, revise policies and procedures to prevent and reduce hazardous spills, including spills on deck that may flow into the water.
- If not required by regulation, develop and implement a spill response plan that includes how to identify, contain, clean up, and dispose of spilled materials.
- Conduct periodic oil spill response drills, in addition to what is required by regulation, to ensure response readiness.
- Add fixed spill containments, such as coamings, around above-deck machinery.
- Use drip trays only as a temporary oil catch mitigation measure when changing oil.
- Develop and implement preventative maintenance procedures to service and replace hoses and gaskets which can deteriorate over time (e.g., hydraulic, fueling, cargo, etc.) at intervals recommended by the manufacturer or according to operational needs.
- Apply secondary protection, such as Kevlar sleeving, over the top of exposed hydraulic hoses.
- Review and implement applicable recommendations from the compendium of best practices included in the ***2015 final report*** of the Coast Guard-AWO Safety Partnership Quality Action Team on Preventing Operational Oil Spills from Towing Vessels.

Minimizing Ballast Water and Other Vessel Discharges

- Identify and monitor all sources of discharges to water incidental to vessel operations to benchmark performance and set discharge reduction goals.
- Implement procedures for proactive leak detection and repair in the vessel's ballast water management plan.
- Use municipal fresh water for ballast.
- Implement recordkeeping procedures for bilge and hazardous or non-hazardous waste removal manifests to ensure proper bilge disposal and responsible life-cycle waste management.
- Adopt environmental procurement guidelines which consider third-party certifications for cleaning and other chemical products (e.g., readily biodegradable, minimally toxic, and phosphate-free soaps and detergents) to minimize chemicals in graywater discharges and deck run-off.
- Install seawater-based systems for stern tube lubrication in place of an oil lubricated stern shaft bearing arrangement, to eliminate the discharge of oil.

Other

- Ensure sewage treatment systems are properly installed, calibrated, and maintained.
- Consider zero liquid discharge treatment programs for new vessel construction, allowing for a total or near total reuse of water resources.
- Install catch basins on storm drains and ensure dry-docking spray containment at shoreside facilities.

ENERGY EFFICIENCY ▶ REDUCE FUEL CONSUMPTION AND USE LESS ENERGY

Reducing Vessel Energy Consumption

- Assess and monitor the fuel and energy consumption of each vessel and the vessel fleet to benchmark performance and set fuel and energy consumption reduction goals. Consider using a tool such as the Environmental Protection Agency's ***SmartWay program*** or the ***International Maritime Organization's (IMO) Guidelines for the Development of a Ship Energy Efficiency Management Plan (SEEMP)***.
- Maintain engines in accordance with the company's procedures and/or manufacturer's recommendations.
- Compute and ensure wheelhouse conformity with the vessel fuel consumption vs. speed curve (i.e., throttle optimization) to maximize fuel efficiency for current operations and environmental conditions.
- Optimize trim for hydrodynamic efficiency.
- Enhance routing schedules to minimize light and standby times and maximize utilization of capacity.
- Implement procedures for idle vessels and for downtime between jobs to utilize lay berths, moorings, and docks.
- Assess shore-to-ship electrical power connections (i.e., cold ironing) when available and utilize them if shoreside electrical power is a more environmentally friendly option.
- Install and use a hybrid main engine generator or similar shaft generator to reduce fuel consumed by the generator sets.
- Consider transitioning to cleaner-burning alternative fuel engines or installing hybrid propulsion systems when repowering an older diesel-fueled vessel or planning new construction.
- As vessels are retired, replace them with vessels that use lower or zero-emission technologies (e.g., higher tier diesel engines, hybrid engines, or battery-powered engines).

Reducing Shoreside and Administrative Energy Consumption

- Track the energy consumption of shoreside facilities to benchmark performance and set energy consumption reduction goals.
- Source "green power" from renewable energy sources from utility service providers for shoreside facilities.
- Replace incandescent lightbulbs with longer-lasting light-emitting diode (LED) lightbulbs.
- Purchase and use energy efficient (e.g., hybrid, battery-powered) company vehicles and encourage carpooling or the use of public transit where available.

AIR QUALITY

LIMIT HARMFUL EMISSIONS FROM VESSEL MAIN AND AUXILIARY ENGINES AND FROM CARGO OPERATIONS

Reducing Engine Emissions

- Quantify the greenhouse gas (i.e., carbon dioxide, nitrogen oxides) and other air emissions (e.g., sulfur oxides, particulate matter) of each vessel and the vessel fleet to benchmark performance and set emissions reduction goals. Consider using a tool such as EPA's ***SmartWay program*** or IMO's ***SEEMP guidelines***.
- Use only ultra-low sulfur diesel to reduce smoke, cut the emissions of sulfur dioxide and other toxins (e.g., aromatic hydrocarbons), reduce particulate matter, and ensure less waste oil.
- When overhauling, upgrading, and building vessels, install fuel additive technology and/or engines with after-treatment technology to improve air quality and reduce engine emissions.
- Consider using available grants to repower vessels, such as those provided by the Environmental Protection Agency's ***Diesel Emissions Reduction Act (DERA) Program***.

Reducing Cargo Vapor Emissions

- Adhere to AWO's ***Recommendations for Best Management Practices to Control and Reduce Inadvertent Cargo Vapor Emissions in the Tank Barge Community.***

WASTE MANAGEMENT

REDUCE WASTE GENERATION AND PROPERLY DISPOSE OF GENERATED WASTE

- Assess, categorize, and monitor waste stream sources and overall company-wide output to benchmark performance and set waste reduction goals.
- Develop and adopt targeted waste reduction goals and implement company-wide reuse and recycling programs and/or other waste reduction initiatives (e.g., reduce paper usage by only printing when necessary, use reusable drinking cups, use reusable office supplies, reduce packaging waste such as cardboard and plastics by sourcing bulk purchasing of goods) to minimize waste generation.
- Properly discard lightbulbs, batteries, and other universal wastes with appropriate vendors.
- Implement practices to fully use consumables (e.g., aerosol cans, paint cans, etc.) prior to ensuring proper disposal to reduce waste.
- Install waste reduction equipment on vessels (e.g., compactors and evaporators).
- Improve oil filtering systems, use synthetic oils, increase drain intervals, and reduce oil usage.
- Donate retired vessels to be made into artificial reefs if a viable option.
- Work toward minimizing purchases of hazardous materials by identifying alternatives.

CORPORATE RESPONSIBILITY

EMBRACING AND ENHANCING CORPORATE SUSTAINABILITY AND CITIZENSHIP

- Develop, implement, and post publicly an environmental stewardship policy and execute a corresponding environmental management plan to continually improve operations and achieve measurable environmental sustainability goals.
- Implement policies and procedures for recycling vessels to ensure that materials and equipment are reused or recycled to the fullest extent, similar to the ***International Maritime Organization's Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships***.
- Pursue environmental and sustainability certification applicable to your company's operations.
- Adopt vendor and supplier practices for ethical sourcing and procurement.
- Develop and publish a corporate sustainability report which chronicles the broad performance of corporate social responsibility (CSR) and/or environmental, social, and corporate governance (ESG).

ABOUT AWO

The **American Waterways Operators** is the tugboat, towboat and barge industry's advocate, resource and united voice for safe, sustainable and efficient transportation on America's waterways, oceans and coasts.

For more information about the importance of waterway transportation, please contact AWO at **(703) 841-9300** or visit AWO's website at **www.americanwaterways.com**.