

Chapter 5: Workshop Preparation

1. Workshop Equipment and Material Requirements

The purpose of this section of the Implementation Guide is to provide the user with a detailed understanding of the materials and equipment required for a PAWSA workshop. These resources are the responsibility of the sponsor; however, in the spirit of partnering with industry, the sponsor may consider obtaining assistance from the private sector.

Appendix A: Workshop Preparation Schedule Checklist provides a schedule and checklist for workshop material and equipment preparations. The checklist should be photocopied and used by the facilitation team as a reminder for action item deadlines.

Producing some of the materials requires several weeks of advance planning. Other materials, which are more administrative in nature, can be prepared a few days before the workshop, as long as the necessary resources are obtained in advance.

Appendix B: Workshop Equipment Checklist provides a list of materials and equipment generally required for a PAWSA workshop. Keep in mind that this checklist is not all-inclusive and may vary based on the needs of the facility and size of the workshop. Detailed explanations of the workshop materials are provided in subsequent sections of this chapter.

2. Waterway Charts

Selecting Charts

Chart(s) of the waterways are required to facilitate in-depth discussions of navigation issues. The chart(s) must cover the entire waterway area that is expected to be defined by workshop participants. Charts must cover the main waterway, its navigation channels, and any adjacent or converging waterways that impact vessel traffic.

Charts should be the latest edition, but do NOT need to be corrected to bring them up to date with notices to mariners. Chart(s) must be of adequate scale to provide details relevant to navigation such as waterway infrastructure (e.g., bridges, pipelines, etc.), commercial cargo and passenger facilities, and marinas, etc. The ideal scale will vary depending on the size of the waterway. Sometimes, multiple charts are required to present the waterway at an appropriate scale. Ideally, all charts selected should be close to the same scale to minimize confusion during the discussion periods.

Displaying Charts

Because the charts will be referred to throughout the workshop, they should be placed at the front of the room. Generally, they should be slightly off to one side to allow for the simultaneous presentation of the PowerPoint™ slideshow on the projection screen, and at a slight angle so as not to obstruct the view of the participants on that side (refer to *Appendix C: Workshop Floor Plan* in Chapter 3).

If multiple charts are used, they should be arranged so that they depict the entire waterway as if they were one continuous chart (i.e., pieced together side-by-side, like a puzzle), if possible.

There are two methods of displaying the charts that traditionally have worked well. One method requires firmly mounting charts to a rigid backboard such as foam core, wood, Plexiglas, or heavy-duty cardboard. Charts are then placed on easels or other appropriately elevated stands and fixed together with tape or thumbtacks (from the back). Another method entails posting charts on a conference-size display board.

Color Coding Charts

The facilitator will use the charts throughout the workshop, first to define the waterway and later to discuss specific areas of risk. As the participants identify areas where risks exist, the facilitator places colored adhesive dots on the chart to mark those areas. The adhesive dots are color-coded to match the colors of the risk categories on the Waterway Risk Model. This provides a visual display of the waterway risks and helps participants stay focused on the risk category that is currently being discussed. Notice that the chart pictured on the preceding page has been marked in this fashion. Since the adhesive dots are difficult to remove, the chart(s) used for the workshop should not be the primary charts used by the sponsor's personnel, but chart(s) that can be discarded, if desired.

Use of an Electronic Charting System (ECS) may be used in lieu of paper navigation charts. Since 2010, all US Coast Guard sponsored workshops have utilized an ECS instead of paper charts. Use of ECS offer many benefits over paper navigation charts, including the ability to quickly change scales to either zoom in or zoom out from geographinc areas being discussed, the ability to electronically marks high risk areas and correlate the areas to the comments being provided by the workshop participants.

Participant Folders

A folder containing general information should be prepared for each participant and observer. This information, often referred to as session handouts, assists participants in understanding the PAWSA process and schedule, clarifies key points for completing *Books 1 – 4*, and provides space for notetaking throughout the workshop.

As a general rule, all participants should have an assembled folder; however, depending on the size of the waterway and/or the workshop, making additional copies to accommodate unexpected observers and last-minute participant substitutions is prudent.

A folder should be placed at each participant's seat prior to his/her arrival at the workshop so he/she can review the material before the workshop begins. The following items are recommended for inclusion in the folders (see *Appendices C – G* for the first five items, the following section of this chapter for the waterway profile material, *Appendix H* for the Glossary of Terms, *Appendix I* for the Workshop Critique, and the PAWSA website for previous workshop reports, located at:

http://www.navcen.uscg.gov/mwv/projects/pawsa/PAWSA_FinalReports.htm).

- Workshop Agenda
- Facilitation Team Contact List
- Waterway Risk Model
- Waterway Risk Model Explanation
- Risk Factor Mitigations
- Waterway Profile Material
- Glossary of Terms
- Workshop Critique
- Previous Workshop Report (if a subsequent PAWSA is being conducted for the port)

If desired, create Ports and Waterways Risk Assessment Workshop labels for the front of each folder using *Appendix J: Participant Folder Labels*. Each label should include the PAWSA title, workshop dates, and waterway name. The electronic format for the labels is already prepared, with the exception of the waterway-specific information. After entering the correct information, prepare a color printer with proper label paper (i.e., Avery #5264 label paper) and print that page of the electronic file only.

3. Waterway Profile Material

The waterway-specific data should be factual¹ and presented in both graphic and text format. Ideally, five years of data depicts a good representation of the information requested in factual terms. In some locations, however, five years worth of statistical data may not be available for various reasons, while in other locations more than five years of statistical data may be available. Therefore, provide as much specific data as possible based on the amount of existing information.

The sponsor should provide the participants with enough data to understand the nature of the risks in the waterway. Explanations and examples provided on the following pages identify the different types of data that are typically used during a PAWSA workshop. They should be used as a general guide for format when presenting the data. An alternate format may be used, as long as the same information is provided. More or less data can be used based on the extent of operations in the waterway under discussion.

The primary point of contact should collect data from a variety of public and private organizations to ensure comprehensive and accurate waterway profile data. Good data sources include local USCG files and databases, pilots' associations, port authorities, and recreational boating associations. The U.S. Army Corps of Engineers Navigation Data Center in New Orleans, LA, also collects waterborne commerce statistics that can be helpful for a PAWSA. Some organizations provide general data on their Internet websites; however, organizations typically can provide more current and waterway-specific data if given several weeks advance notice.

Distributions of Vessel Transits by Vessel Type

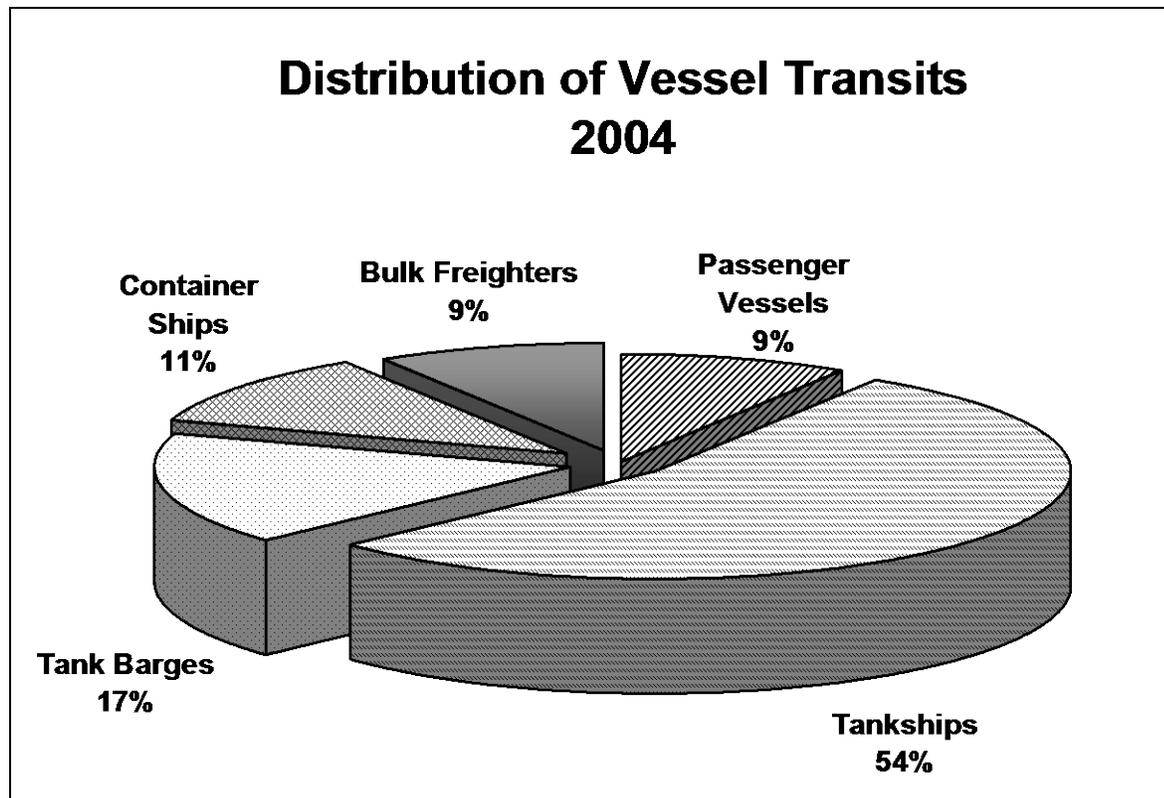
Workshop participants will need data showing which types of vessels, proportionately, are transiting the waterways. Typically, this information is relied upon heavily during a PAWSA workshop.

Sponsors, should identify vessel types that are most critical to understanding the navigation risk and potential consequences of a marine casualty in the waterway that is being considered.

The waterway-specific data can be presented in the form of a pie chart (in percentages) using the latest year's transit data as show in Example #1 on the next page.

¹ Actual historical statistics characterizing the operation of the port are NOT incorporated into the calculations of the waterway risk assessment process. Rather, they are used to focus attention on the major port attributes during deliberations throughout the process. However, in an effort to facilitate future risk assessments at the local level, a member of the facilitation team should record any changes to the information identified by workshop participants and update the port profile as needed.

Example #1



Waterway Navigational Attributes

Many of the waterway's characteristics can be represented in a simple bulleted or narrative form. List the specifications pertaining to the following topics regarding the waterway's navigational characteristics:

- **Traffic:** Briefly describe the amount of traffic using the waterway. Traffic includes deep draft vessels (e.g., ocean-going cargo vessels, passenger vessels, oil rigs), shallow draft vessels (e.g., tugs and tows, offshore supply vessels), commercial fishing vessels, and pleasure craft. Include information regarding traffic mix (i.e., is the waterway single use or multi-use (e.g., commercial / recreational) and, if the latter, do conflicts occur), and congestion issues (e.g., heavy volume at certain dates / times or areas of waterway).
- **Wind:** Briefly describe the prevailing wind conditions in the area. Estimate the percentage of time that the wind blows greater than 20 knots sustained. Note any difficulties being encountered by waterway users due to wind effects.
- **Visibility Restrictions:** Briefly describe how often restricted visibility conditions occur within the waterway. These conditions include all phenomena that prevent the waterway user from being able to see other traffic and aids to navigation (e.g., fog, rain squalls, snowstorms, smoke, etc.). Estimate the percentage of time that fog closes the waterway or that snowstorms hinder operations in winter.
- **Visibility Impediments:** Briefly describe visibility impediments within the waterway area. These include all obstacles, other than previously listed, and naturally occurring features that prevent the waterway user from being able to see other traffic and aids to navigation (e.g., moored vessels, structures, background lighting, vegetation, etc.).
- **Water Movement:** Describe current flow in the waterway. Be specific about the type and speed of current (e.g., flow with or across the channel at varying speeds). Also include information about predominant seasonal currents (e.g., fast currents in spring with slower movement in the fall).
- **Obstructions:** Briefly describe obstructions (e.g., ice, floating debris, fishing nets, etc.) in the waterway that affect safe vessel navigation. Estimate the percentage of time obstructions occur and note any difficulties encountered by waterway users due to obstructions.
- **Dimensions:** Describe the width and depth of the channel and how much room there is for two vessels to pass each another. Identify areas where the width and depth changes and areas that are considered problem areas for vessel movement.
- **Bottom Type:** Briefly describe the type of bottom in the waterway and any areas that concern waterway users. Bottom types include mud, silt, rock, sand, etc.
- **Waterway Configuration:** Briefly describe any major bends in the waterway and their location. Describe the locations where traffic merges from converging waterways, and any locations where traffic regularly crosses the main ship channel (e.g., ferry operators, Intercoastal Waterway, etc.).
- **Number of Passengers:** Describe how many passengers transit the waterway on an annual basis, and describe how well prepared the waterway community is to deal with personnel injuries in the event passenger vessels are involved in a marine incident. Describe how well the waterway community is prepared to treat and/or evacuate passengers if the situation arises (e.g., incorporate data pertaining to the number of mass casualty drills held in the area). Types

of passenger vessels that carry large numbers of passengers and should be considered include cruise ships, charter fishing boats, dinner cruises, military craft, ferries, etc.

- **Volume of Petroleum:** Describe the volume of petroleum products coming in and out of the waterway in terms of the number of vessel / barge movements and the total volume being transported by water.
- **Volume of Chemicals:** Describe the volume and type of chemicals being transported on the waterway. Specifically state whether any chemical cargoes are moving in bulk.
- **Mobility:** Describe how vulnerable the waterway is to impacts resulting from marine incidents involving critical infrastructure in or alongside the waterway; that is, those shoreside things critical to moving marine cargo throughout the waterway (e.g., terminals, pipelines, bridges, etc.). Describe the impacts if the channel cannot be used (e.g., waterway / channel closure resulting from a sunken ship, oil or hazardous material spill, etc.).

See Example #2 on the next page for example data pertaining to the Waterway Navigational Attributes section.

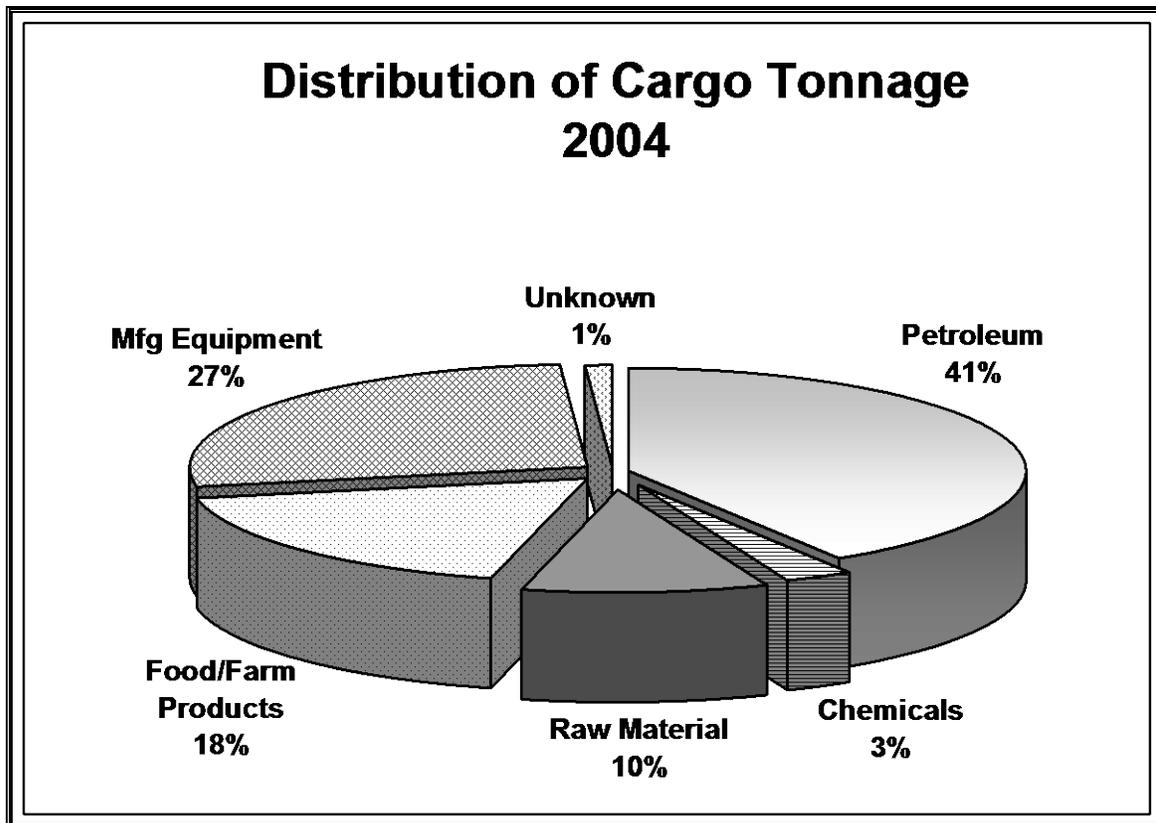
Example #2**Waterway Navigational Attributes**

1. **Traffic:** *10,000 ship movements per year, primarily two-way, consisting of large deep draft cargo and passenger vessels, tank vessels, tugs, and small coastal freighters; heavy recreational use on summer weekends; moderate to heavy commercial fishing.*
2. **Wind:** *Trade winds generally blow from southeast at 5-10 knots; strong storms can bring 25+ knot winds from any direction; overall—10% light, 70% moderate, 15% strong, 5% gale.*
3. **Visibility Restrictions:** *Generally good unless strong storm occurs; zero visibility conditions due to fog occur approximately 7 days/year; overall—5% < 0.5 nautical mile; 20% 0.5-2.0 nautical miles; 75% > 2.0 nautical miles.*
4. **Visibility Impediments:** *Background lighting near channel A; 3 large commercial hotels located near bend in Channel C.*
5. **Water Movement:** *Strong cross-channel current at sea buoy; very strong tidal currents inside channels; strong crosscurrents at the head of the jetties.*
6. **Obstructions:** *Commercial fishing traps/floats throughout year.*
7. **Dimensions:** *Dredged channel 10 nautical miles long and 800 feet (244 meters) wide on approach through Mason Cut, then 500 feet (152 meters) wide inside; depth ranges from 35 feet (10.7 meters) at the end of the main channel to 48 feet (14.6 meters) at the container berth.*
8. **Bottom Type:** *70% mud, 30% rock; four large rocks located in shallow part of channel just north of oil docks.*
9. **Waterway Configuration:** *10 nautical miles of narrow dredged channel with two bends located 3 miles (4.8 kilometers) south of the port; one major river converges with the main channel north of the port; ferry and taxi services cross channel perpendicular to the prevailing flow; north and south channel outbound traffic converges at point where ferries cross channel.*
10. **Number of Passengers:** *Two ferries each carrying about 100 passengers (one at either end of the waterway) run every 15 minutes; one cruise ship (2,000 passengers) sails every Monday and returns every Friday; one dinner cruise on river every night.*
11. **Volume of Petroleum:** *Multiple bulk petroleum vessels (tankers and tank barges) transit daily; about 500 tug / barge transits per year of about 10,000 bbls each; daily lightering at anchorages; daily loading of tankers at refinery with 500,000 bbls each.*
12. **Volume of Chemicals:** *One caustic soda vessel arrives every 2 weeks; no cargoes of particular hazard transported in bulk other than three LNG vessels per month transiting into Terminal B.*
13. **Mobility:** *3-mile (4.8-kilometer) toll bridge for Interstate 50 located at Mason Cut, which provides all access to and from Sunset and Plantation Islands; port terminal located at second major bend in main channel.*

Distribution of Cargo Tonnage

Compile a graphic representation in the form of a pie chart (in percentages) to proportionately show the amount and types of cargo carried throughout the waterway for the most recent year for which data is available.

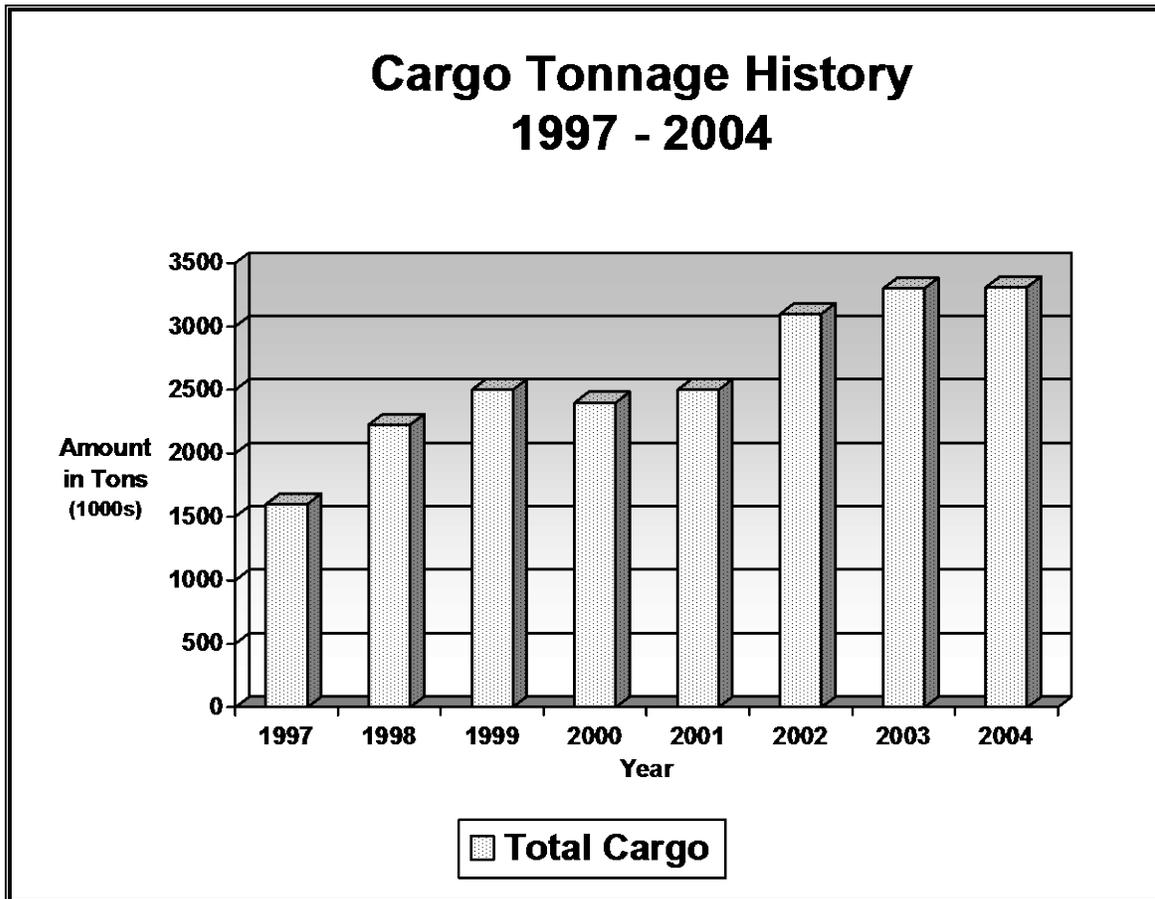
Example #3



Cargo Tonnage History

Compile a graphic representation in the form of a bar chart using the total cargo tonnage statistics, by year, beginning with the earliest data available.

Example #4



Waterway Casualty History

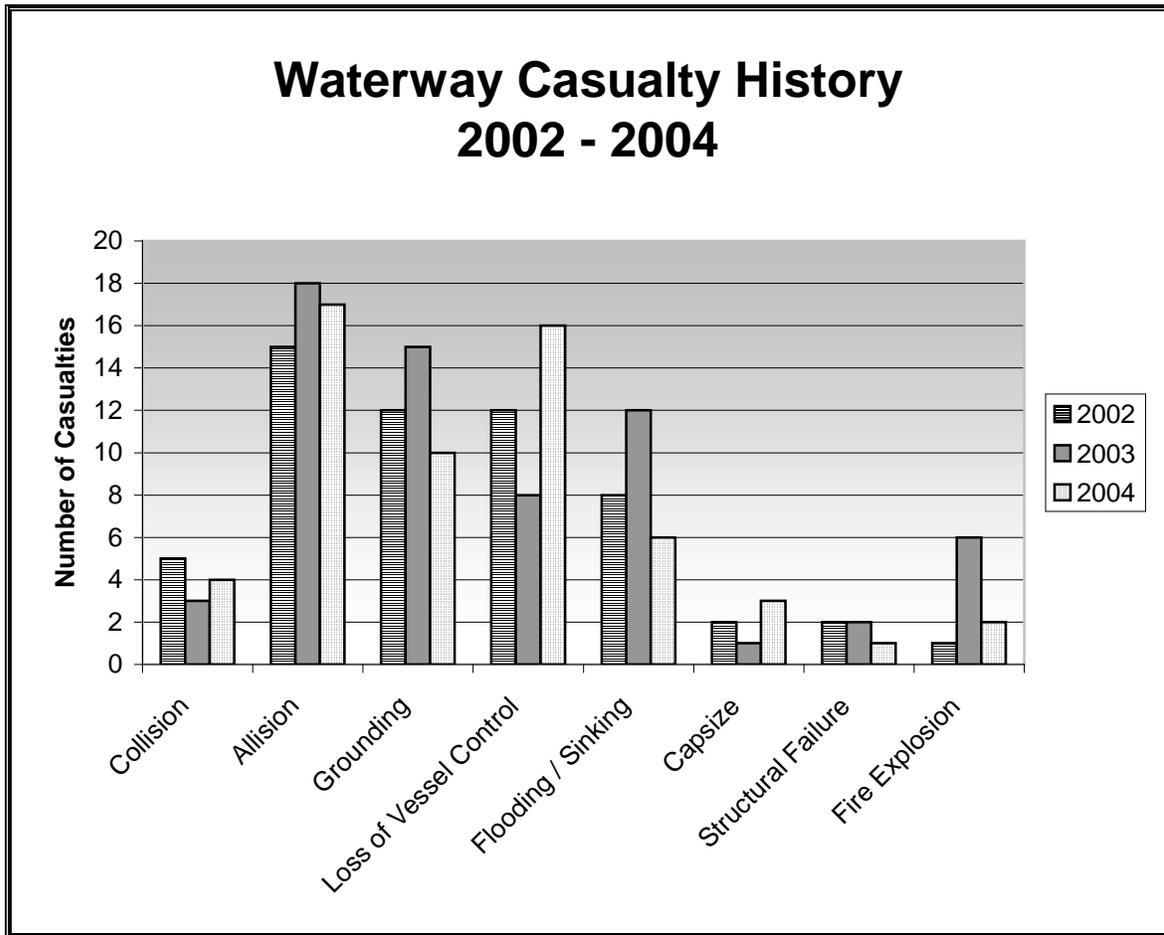
Providing waterway casualty statistics proves useful when discussing the consequences side of the Waterway Risk Model equation. Compile a graphic representation in the form of a bar chart using the number of casualties by type and year. The following types of casualties should be considered:

- Collisions
- Allisions
- Groundings
- Loss of Vessel Control
- Flooding / Sinking
- Capsize
- Structural Failure
- Fire / Explosion

Historical casualty data should, at a minimum, focus on incidents that resulted in significant damage, pollution, or loss of life, or that affected vessel movement. Accident investigations conducted by the USCG and the U.S. National Transportation Safety Board should be cited together with resulting recommendations and actions.

See Example #5 on the next page for example data pertaining to the Waterway Casualty History.

Example #5

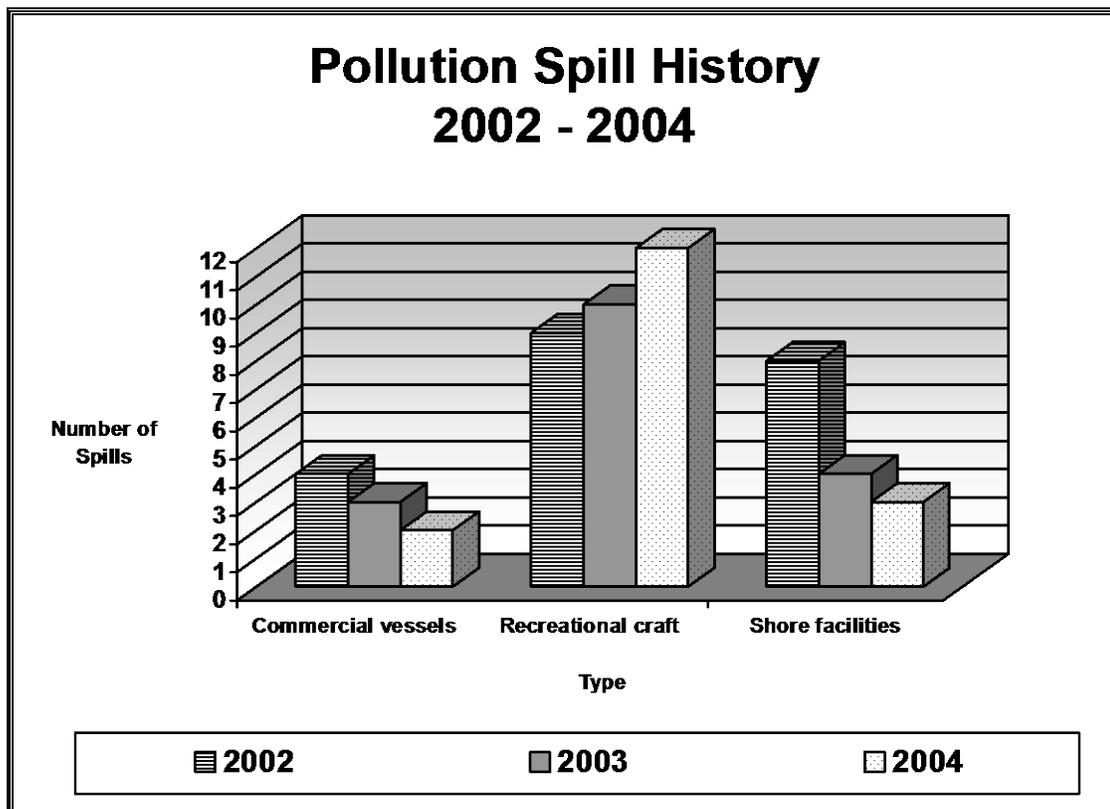


Pollution Spill History

In an effort to provide participants with a comprehensive perspective of the waterway’s pollution spill statistics, create a graphic representation in the form of a bar chart. Present the number of spills, by year, from the following sources:

- Commercial Vessels
- Recreational Craft
- Shore Facilities

Example #6



Current Vessel Traffic Management Measures

In a simple bulleted or narrative form, provide a comprehensive list of the current VTM measures. Include not only federal or other governmental regulations and specific in-place measures such as a Vessel Traffic Service (VTS) or Vessel Traffic Information Service (VTIS), but also operating practices followed by pilots or segments of the industry that may not otherwise be documented. The list assists in identifying measures that are (1) not common knowledge, (2) are inadequate or in need of revision, or (3) are not consistently complied with by all waterway users. The discussion may also identify practices by various segments of the industry that are not generally known, and should be added for future reference.

- **Aids to Navigation (USCG & Private):** Describe known ATON problems.
- **Vessel Traffic Systems:** Describe the VTS / VTIS coverage area, if one exists.
- **Situation Awareness for Each Ship:** Describe how vessels are made aware of the following:
 - Other vessel movements and intentions
 - Problems in the waterway
 - Existing / forecasted environmental conditions
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See Example #7 on the next page for example data pertaining to the Current VTM Measures section.

Example # 7**Current Vessel Traffic Management Measures****1. Aids to Navigation (USCG & Private):**

- Lighted and Unlighted – Fixed and Floating: *LLB 1 constantly hit and/or dragged off station; pilots report Inner Range Light hard to see due to background lighting.*
- Electronic Aids (GPS, DGPS, RACON, AIS, etc.): *DGPS signal reportedly inaccurate.*
- Transportation System Schemes (e.g., ship routing measures): *From 20 nautical miles northwest to sea buoy, two lanes each, 500 yards (457 meters) wide with a 1,000-yard (914-meter) separation zone.*
- Regulated Navigation Area (RNA): *Precautionary Area established for a 1-nautical mile diameter around the sea buoy; restricted drafts and meeting/overtaking at Cutter's Point; security zone at Bogie Channel Terminal.*

2. Vessel Traffic Systems:

- VTS: *Regulates traffic from 20 nautical miles to seaward to the head of navigation on all of the port's waterways.*

3. Situation Awareness for Each Ship:

- Own Vessel's Position and Intention: *Situational awareness derived by harbor pilot communication between vessels, visual and radar observation by the pilot, and through vessel traffic coordination by the pilots association dispatcher; good bridge-to-bridge communications in this port.*
- Port problems: *Anomalies broadcast via Notices to Mariners and by VTS watchstander.*
- Environmental Conditions: *NOAA Physical Oceanographic Real-time System (PORTS) installed; wind and current meter data available via website and telephone modem dial-in.*

Example #7

Planned and Anticipated Changes

In a simple bulleted or narrative form, list the known changes that may affect waterways management. Examples include things such as alterations to channel configuration due to bridge construction or repair, dredging, changes in shoreside facilities, changes in levels and/or nature of waterway activities, and forecasted traffic levels. The list should also highlight anticipated changes that may be under consideration, but have no firm commitment as of yet. The following items are recommended for inclusion:

- Planned Infrastructure Developments
 - Active USACE permits
- Changes in Levels and/or Nature of Waterway Activities
- Forecast Traffic Levels
- USCG Regulations to Be Implemented
- Changes Under Consideration (Not Committed)
 - USACE permits being considered

Example #8**Planned and Anticipated Changes**

1. **Planned Infrastructure Developments:** *Dredging South Channel to 42 feet (12.8 meters) up to Harvest Bay then 36 feet (11 meters) up to Terminal A; U.S. Army Corps of Engineers plans to expand and deepen East Turning Basin, deepen entrance channel and eastern portion of White Crane area to 50 feet (15.2 meters).*
2. **Changes in Levels and/or Nature of Waterway Activities:** *New sports stadiums attracting hordes of recreational boaters who congregate in the main ship channel during games.*
3. **Forecast Traffic Levels:** *A rise in passenger cruise ship transits due to the new dock at the north end of the port.*
4. **USCG Regulations to Be Implemented:** *Proposed RNA around sea buoy in established precautionary area.*
5. **Changes Under Consideration (Not Committed):** *U.S. Army Corps of Engineers review of channel widening from Big Bend Channel to Johnson Cut; new condominiums at water's edge between the high rise complexes near Main Street.*

4. **Books 1 – 4**

As described in the first chapter, a standard set of books is used to guide the participants' self-evaluation and pair-wise choices throughout the workshop.

Prepare one copy of *Books 1 – 4* for each two-person team, plus one copy for each observer. Each book is handed out and completed separately during the workshop; therefore, prepare *Books 1 – 4* separately (i.e., do not bind the books together into full sets). *Books 1* and *3* should be stapled; however, *Book 4* is completed one page at a time and should NOT be stapled (*Book 2* consists of only one page).

Write each team's number on the first page of each book. Also write the team number in the space provided on the top-right corner of EACH page of *Book 4*. This will be important during the workshop in the event there are any questions about a particular team's data for which the facilitation team needs clarification. For easy distribution during the workshop, organize books in stacks by the book number and chronologically by team number (e.g., one stack of Book 1, another stack of Book 2, etc.).

Appendices K – N contain *Books 1 – 4*, respectively, and are designed to be printed and photocopied as needed directly from the Implementation Guide, once the waterway name and date have been changed accordingly.

5. **Critiques**

Upon completion of the two-day assessment, participants, and observers if interested, are asked to provide feedback on various aspects of the PAWSA process, facilities, and the presentation of material. The Workshop Critique is an invaluable tool used to enhance the process by incorporating beneficial comments, as well as provide the facilitation staff with an understanding of how they performed their duties associated with the workshop. The second benefit is especially helpful to the facilitation staff where an additional workshop is warranted. Using *Appendix I: Workshop Critique*, which provides the recommended format and content, make at least 40 copies for the workshop; this should be enough to provide each person, including the observers, with a tool to evaluate the workshop and the PAWSA process.

6. **Participant / Observer Nametags / Name Tents**

Generate nametags and name tents for the participants and observers to create a professional image. The files used to create these items are standardized with the exception of individualized information (i.e., first and last names, and represented organizations or associations).

All attendees, including participants, as well as observers and facilitation staff members, should have a clip-on style name badge for two reasons: (1) others are provided the opportunity to know who they are working with and what segment of industry that person represents, and (2) social intermingling between all persons is encouraged throughout the workshop. The second factor is very important, as a strongly bonded workshop group is more likely to actively implement recommended changes after the fact. Create all nametags for the workshop after receiving confirmation from the attending participants and observers. We recommend using Clip Style Name Badges (2¼ x 3½ inches), Avery #74556, and the template in *Appendix O: Workshop Nametags*.

After completing the nametags, create name tents for each participant. Observers and the facilitation team do not require name tents because the name tents are placed at the workshop table to indicate each participant's seating position and team designation. Name tents, in addition to serving the same

purposes as the nametags, also assist the facilitator (and other participants) in personally referring to each participant by name during workshop discussions. Using Large Tent Cards from Avery (model #5309) and *Appendix P: Workshop Name Tents* complete all participant name tents. Each name tent requires two separate printings to obtain the required information on each side of the tent (i.e., print the information one time; after ink dries, turn and reload the printed paper; print the information again). To enhance printing efficiency, the electronic file has been created to allow five names to be entered and printed at one time. Depending on the speed and capacity of the printer, a working file may be modified (i.e., some pages deleted or added) as needed.

The most imperative aspect of this task is to check (and double-check, preferably by another person) the proper spelling of all names, titles, and organizations. Attention to detail during this task is critical to avoiding embarrassment and unnecessary reprinting at the start of the workshop. A simple misspelling can (and has) unintentionally set the wrong tone for the course of the entire workshop!

7. Attendee Contact List

While introductions are being made on the first morning, the facilitator should pass around the Attendee Contact List, which provides / captures each person's name, represented organization, address, telephone number, fax number, and email address.

Before the workshop begins, fill in *Appendix Q: Attendee Contact List* as much as possible with information obtained during the initial selection and/or invitation phases of the PAWSA process. Completing this information prior to the workshop allows each attendee to simply confirm contact information already obtained by the sponsor and primary point of contact, making changes only if necessary. To make reviewing the list more efficient, alphabetize the list by last name. However, quite often participant and/or observer substitutions are made at the last minute; therefore, provide an additional page of blank spaces so those individuals can insert their information when the list is circulated.

With the exception of the Attendee Contact List, which ultimately is used as a means of providing contact information for all participants and observers, names and organizations are NOT captured as part of the workshop data. As in every brainstorming session, all participant verbal inputs are considered equally important to the PAWSA process, so are recorded in an unbiased manner and without source attribution.