



**National Association of  
State Boating Law Administrators**

**Engineering, Reporting & Analysis Committee  
(ERAC)**

**Final Committee Report for 2017-2018 Cycle  
and 2018-2019 Cycle Recommendations**

**v.1 August 2018**

## ENGINEERING, REPORTING & ANALYSIS COMMITTEE (ERAC) 2017-2018 Committee Activity Report and 2018-2019 Recommendations

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Full committee roster is on the last page of this report.

### CHARTER IN SUPPORT OF NASBLA'S MISSION AND SERVICE TO THE MEMBERSHIP:

As one of NASBLA's five standing policy committees in 2018, ERAC identifies, evaluates, and analyzes recreational boating data and other related information that can shed light on factors associated with boating accidents; be used to inform the development of state- and national-level boating safety policies, programs and campaigns; and, ultimately, be used to measure their effectiveness.

To ensure that the results of boating accident research and analyses are valid and reliable, ERAC also actively seeks ways to advance the quality, relevance, accuracy, consistency, applicability, and completeness of the data and information.

### IN PRACTICE, ERAC:

- Takes on targeted research questions. ERAC teams analyze accident report data and other boating-related statistics to identify risk factors, patterns and trends in boating accidents;
- Works in partnership with the States, the U.S. Coast Guard, and other key agencies and organizations in the recreational boating community to improve the criteria, processes, and training associated with reporting, collecting, entering and using accident data;
- On behalf of the States, and in the interest of uniformity and shared understanding, collaborates with the U.S. Coast Guard to clarify accident reporting criteria and procedures;
- Identifies and examines boating safety program, equipment design, and related efforts that could mitigate risk factors identified through the committee's analyses;
- Monitors the activities of and receives reports from subcommittees and panels of NBSAC, ABYC, NMMA, and UL, among others, to identify and inform about issues of mutual interest; and
- Also interacts with other NASBLA committees and panels and stays informed about projects of mutual interest—not only to add value to ERAC products, but also to determine how ERAC can effectively serve as a resource to them.

In the 2017-2018 Cycle, ERAC member teams were assigned to eight charges, one of which continues in close collaboration with the U.S. Coast Guard, and three other monitoring activities and topic explorations, two of which were conducted in conjunction with NASBLA's Paddlesports Committee. While the bulk of the discussions and work was conducted through teleconferences and various online formats, the full committee also met for an all-day, in-person session in Lexington, Ky., on March 3, 2018. See **APPENDIX ERAC-2018-Committee Meeting** for the Summary of Key Discussion Points, Status Updates, and Action Items from that event.

## MONITORING & EVALUATION

Monitor, evaluate, collaborate or take other action as needed on policy proposals, rulemaking, issues, and projects in areas covered by the committee.

### Input to USCG policy / regulatory proposals and actions (ERAC\_M&E 2018-1)

**Give input to U.S. Coast Guard policy and regulatory proposals and actions in areas related to the committee's charter:** Monitor, research and provide feedback to Coast Guard policy initiatives and regulatory proposals on accident reporting and other areas related to ERAC's charter, whether published in the Federal Register or issued through other official mechanisms. Inform the states and encourage them to provide feedback. Coordinate NASBLA's organizational responses to such proposals and use [NASBLA's Federal Register webpages](#) and the [NASBLA Lighthouse On the Horizon](#) and discussion forum portals to provide resources and promote open discussion among the states.

- ✓ **Why it's important:** Agency notices, proposed rules, final rules and other formal and informal policy guidance issued by the U.S. Coast Guard can significantly impact recreational boating and RBS programs in the states. Over the past few years, ERAC has taken a lead in monitoring, analyzing, [chronicling proposed policy and regulatory actions](#), and communicating with NASBLA members about their significance to the states and other RBS stakeholders **and** about the importance of weighing in, especially through formal comment submission processes that require the Coast Guard to publicly respond to the feedback it receives.
- ✓ **Deliverables:** See **Status** regarding deliverables, and also see related activity associated with **USCG/ERAC\_IR&A-2018-1**, the collaborative development of national policy on accident reporting. Ongoing maintenance of [NASBLA's Federal Register pages](#).
- ✓ **Status:** The primary input to Coast Guard policy in the 2017-2018 cycle was—and in the next cycle will continue to be—in conjunction with charge **USCG/ERAC\_IR&A 2018-1**, the collaborative project to develop national policy on accident reporting. However, in the waning days of the current cycle or more likely, the early days of the new one, activity also is anticipated regarding a Federal Register notice to be issued for public comment on CG-3865 Boating Accident Report form, set to expire March 2019 (notice timing uncertain as publication has been delayed by actions within the Coast Guard's Privacy Office and by another project (MISLE'S System of Records Notice) in which the BAR collection is mentioned). Expectation also is that a revised CGHQ-3923 State Registration Data form will be published to the Federal Register for final public comment, and that there will be publication of proposed regulatory changes associated with the Uniform Certificate of Title Act – Vessels (UCOTA-V).
- ✓ **Measures of effectiveness:** Short term: On key policy initiatives that will impact all states to some degree, an increase in the comment/response rate of NASBLA member states (minimum of 30 jurisdictions). [For the policy project associated with USCG/ERAC\_IR&A 2018-1, however, should be more stringent, and on the order of minimum two-thirds of NASBLA member states in order to demonstrate consensus with proposals]. Long-range: More robust input submitted to the U.S. Coast Guard. Improved communications and coordination of efforts between the states and the Coast Guard.
- ✓ **2018-2019 cycle recommendation:** Continue as standing charge to monitor policy and regulatory (especially deregulatory) activity, and provide timely information/resources to NASBLA membership. Finalize with revised language as needed to reflect any developments late in 2017-2018 cycle.

## KNOWLEDGE & CONTENT MANAGEMENT

Develop, maintain, and deliver ERAC's products in alignment with NASBLA's knowledge, content and learning management systems.

### Lighthouse Forum (ERAC\_K&CM 2018-1)

**Continue developing the NASBLA Lighthouse Forum:** Continue growing the content and components of the [NASBLA Lighthouse](#) and actively promote its use. Ensure ERAC's involvement in NASBLA-wide discussions and execution of the association's knowledge and learning management systems (KMS and LMS). Maintain the Lighthouse webpages, continue integrating ERAC products, and upload and classify library resources in line with protocols developed through the KMS efforts. Implement best practices for driving users to the discussions and resources.

- ✓ **Why it's important:** [The Lighthouse](#) was envisioned by a 2010 charge team as an accessible, online forum where users and producers of recreational boating data could gather to share data and successful practices, forego "reinventing the wheel," and locate viable resources and information applicable to their work. The need for collaboration and timely sharing of information on complex boating safety issues has not waned; with increasingly constrained time and resources at all government levels and across all sectors, such a value-added resource has even more merit. This activity is also responsive to data-related initiatives of the National RBS Program Strategic Plan for 2017-2021.
- ✓ **Deliverables:** Ongoing updates to the webpages at <https://www.nasbla.org/lighthouse/nasbla-lighthouse>. Additional resource page in the Get Equipped portal (patterned after [ESD Resources](#)) on Marine [Carbon Monoxide Incidents Information and Resources](#) went live August 2018 (see **ERAC\_E&E 2018-2**)
- ✓ **Status:** In the 2017-2018 cycle, updates to the Lighthouse webpages at <https://www.nasbla.org/lighthouse/nasbla-lighthouse> were made on an as-needed basis while the NASBLA-wide Knowledge Management workgroup, consisting of representatives from all policy committees, worked through issues associated with the NASBLA website and components of NASBLA Connect (libraries, discussion forums, blogs, and so on). Group developed a draft Knowledge Management Policy and sought comments from the committees. The final, approved policy and protocols governing NASBLA's KMS will influence Lighthouse activity in the next cycle. The KM workgroup will next be working on the taxonomy for resources and determining how and where items are best placed/managed. The upload and classification of Lighthouse-related library resources will be undertaken in accordance with those organization-wide decisions.
- ✓ **Measures of effectiveness:** Short term: Facilitate discussion of at least three topics of relevance to Lighthouse users. Minimum of 100 percent increase in number of members currently enrolled in the community located on Connect. Long-range: More informed, engaged states and other stakeholders regarding measures and details associated with recreational boating safety, and boating accident and other data.
- ✓ **2018-2019 cycle recommendation:** Continue as standing charge, with revised language as needed to reflect any policy or protocol modifications resulting from the KM workgroup activities.

## INVESTIGATION, REPORTING & ANALYSIS

Conduct work to improve the criteria, processes, and training associated with reporting, collecting, entering, and using accident data.

### **USCG/ERAC Collaborative development of national policy on accident reporting (USCG/ERAC\_IR&A 2018-1) – revised charge, November 2017**

**Assist in drafting Coast Guard’s national policy for a revised accident reporting structure/system and revamped BARD:** Continue work on a consensus-based project intended to make recommendations that will be used to draft the critical components of the Coast Guard’s national policy on recreational boating accident reporting. Conduct the work via deliberations of an official project workgroup comprised of a diverse group of state members and Coast Guard staff from the Office of Auxiliary and Boating Safety (10 voting members). Content facilitation is by the Coast Guard, with ERAC assisting and coordinating the project logistics. The full ERAC committee and NASBLA leadership will review and comment on the workgroup’s recommendations before a draft product rolls out to the NASBLA membership for comment and, upon any further refinement, vote of acceptance. As this is intended to be national policy, the final product will require approval by Coast Guard leadership before implementation.

- ✓ **Why it’s important:** Updated, consistent, clear, published policy and procedures are critical to the states’ ability to capture and report boating accident data to the Coast Guard and to the Coast Guard’s ability to fulfill its statutory obligations to gather and report accurate and timely statistics on recreational boating accidents. However, the Coast Guard, states, and NASBLA are in overall agreement that the current accident reporting structures, systems, and processes are woefully outdated and need improvements. The regulatory and policy recommendations emerging from this consensus-based project are intended to create more certainties about reporting requirements, improve uniformity and consistency in collecting and processing accident data, and advance the RBS programmatic and policy interests of the Coast Guard and the states.
- ✓ **Deliverables:** Ultimately, a series of consensus products reflecting regulatory and policy recommendations—for states’ approval and Coast Guard acceptance—regarding the accident reporting structure, reporting thresholds, vessel determinations, report data elements, conditions for determining which incidents require reporting to the Coast Guard, report input format, roles and responsibilities, vessel safety defect and recall notifications, and the future reporting system. See **Status** for additional detail.
- ✓ **Status: Discussions and briefings.** Since mid-November 2017, and as of this report date, the policy workgroup has conducted 37 calls, one in-person meeting, and significant interim work; a subgroup to develop guidance as to whether an incident should be reported to the Coast Guard conducted three additional calls. Attendees of the Spring BLA Workshop (March 2, 2018) were introduced to the project, its components, and the process for achieving approval by the Coast Guard and NASBLA leadership, the full ERAC, and the NASBLA member states (see **APPENDIX USCG\_ERAC IR&A 2018-1\_Policy Project\_BLA Workshop 030218**). The NASBLA membership will be further briefed on the project status, outcomes to date, expectations regarding which areas can be addressed through policy and which will require regulatory change, and next steps in the process at the Business Meeting that will be conducted in conjunction with the NASBLA Annual Conference, September 2018.

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**Project timeline.** In March, based on the pace of discussions, the original project scope and timeline for 2018 was adjusted to account for the length of time needed for the workgroup to adequately discuss the many complex aspects of reporting (data elements, in particular), and then to arrive at consensus on all of the proposed recommendations. As there was a desire to have a set of draft policy recommendations from the group that could begin moving through the next layers of review (the full committee, and NASBLA and Coast Guard leadership) by late summer, the core Coast Guard and ERAC representatives recommended, and received Coast Guard leadership approval for, breaking up the project to create a “phase 2” for coverage of the BARD revision and best practices.

**Areas covered to date/consensus polling.** As of this report date, the workgroup has covered all topics (with exception of the BARD revisions) set forth in the original plan agreed to by the Coast Guard and ERAC representatives. And to date, apart from the teleconference discussions, there have been six “consensus polls” conducted online—this to ensure that all workgroup members would have the opportunity to weigh in as to their level of agreement with proposed recommendations, whether or not they were on the call(s) during which recommendations were originally developed or subsequently revised. The last two of the six polls conducted to date have taken up recommendations that were revised by the group as a result of discussions on comments and areas of disagreement that surfaced in the first four.

Following are the topic areas that have been addressed by the workgroup to date. Just over 100 draft recommendations have been developed, run through the consensus polls, and revised as needed. Their content will form the basis for the policy and regulatory recommendations that will move through the external review / approval process:

- Accident reporting structure and thresholds--notification of the incident, gathering incident data and submitting reports (including timelines), and reporting thresholds.
  - Vessels and vessel determinations—watercraft subject to reporting requirements, possible modifications to vessel determinations already issued, and vessel types and subtypes.
  - Data Elements-fields-definitions for national collection—six broad areas: environmental / external conditions, where and when the incident occurred, vessel characteristics, accident details (including the terms / definitions lists approved by NASBLA members in 2012/2013 and as modified during workgroup discussions), damages to vessels and other property, and people associated with the vessel (owner, operator, passengers).
  - Incident Report Decision Matrix (process and conditions for making the determination, including non-reportable events), Input formats, consideration of roles and responsibilities of the states and Coast Guard in various aspects of the accident reporting process, and notifications of vessel defects/safety issues/allisions.
- ✓ **Measures of effectiveness:** Short term: Consensus achieved among workgroup members; the full committee, Coast Guard and NASBLA leadership; and the full NASBLA state membership regarding policy and regulatory recommendations. Long-term: More consistent, accurate, and viable accident report data gathered for use by the states and submitted by the states to the U.S. Coast Guard.
- ✓ **2018-2019 cycle recommendation:** Continue this collaborative project into the next cycle. Complete outstanding project work from “phase 1” including conduct of all review and feedback processes to achieve consensus among the states on the recommendations. Initiate and complete work on “phase 2” (developing system recommendations for the future BARD to accommodate the policy and regulatory recommendations, and identifying best practices and guidance for implementation (in the near term especially for policy-based recommendations).

## Roll out state-level statistical report template (ERAC\_IR&A 2018-2)

**Roll out and continue refining the state-level statistical report template:** In coordination with the U.S. Coast Guard, subject to the resolution of issues associated with the BARD vendor transition, roll out this BARD-based report template for use by the states in creating their own accident statistics reports. Develop instructional materials and maintain them and links to other template resources on the NASBLA Lighthouse [Get Equipped dedicated subpage](#). Participate in related, state-specific template work associated with the NASBLA Boating Safety Dashboard project

- ✓ **Why it's important:** Many states want or need to identify recreational boating accident-related issues or answer questions posed by the public or legislators, but do not have the resources, time or expertise to easily and accurately build statistical reports on their own from BARD queries. Even states that produce basic reports seek ways to improve their products and reduce production time and effort. Working with the Coast Guard, ERAC developed the contents for a template to give states the ability to more easily and accurately generate state-level statistical reports from the accident report data they enter into BARD. The report template will allow users to generate an editable Microsoft® Word document with narrative, summary statistics, and detailed tables.
- ✓ **Deliverables:** The original [Template working document](#) was delivered to the Coast Guard mid-cycle 2015; a [statistical report template subpage](#) on Lighthouse was developed as part of the initial charge assignment. The finalized, ready-to-use report template in BARD is expected to go live for states' use in the first month of the 2018-2019 cycle, this following final testing and refinements (in progress as of this committee report date; see **Status**).
- ✓ **Status:** This product has been in development for a few years and had already undergone beta testing prior to the early-2017 transition in BARD vendors. However, template rollout had been delayed pending the change in BARD vendors and then stabilization of the system following the transition. By mid-February 2018, the Coast Guard and new BARD vendor negotiated the terms for finishing up this BARD-based project. Expectation upon the restart was that the developer would have the project revised and operational in under 120 days. As of this report date, the BARD developer has made identified modifications to the template, and three state volunteers have tested or will be beta testing the latest version. This more robust test of the template is intended to ensure that the report data pulled for their respective states are accurate and that the formatting is acceptable. Further intent is to ensure that necessary, final refinements can be made by the developer to enhance product reliability. The beta test documents can be found in **APPENDIX ERAC IR&A 2018-2\_Template\_Beta test guidance and documentation** and **APPENDIX ERAC IR&A 2018-2\_State Statistical Template User Manual\_v052318 (beta)**.
- ✓ **Measures of effectiveness:** Short term: In the first year the template is made available through BARD, confirm that at least 10 states are using the tool as a primary or secondary method of developing the content for an annual statistical report on accidents in their states. Long-range: More states using their state-level statistics to inform their RBS program planning, educate policy makers and constituents, and make improvements to data entry.
- ✓ **2018-2019 cycle recommendation:** Continue charge to complete outstanding work resulting from the beta test of the latest iteration of the template and to facilitate rollout to the states; refine product and instructions based on user experiences and need; and assist states in report development upon request.

## Expand pilot / refine collection and analysis of human factors data (ERAC\_IR&A 2018-3)

**Expand the pilot program, increase number of cases for analysis, and refine best practices for gathering and examining the data:** Continue working with Florida and Oregon in applying the [human performance investigation guidance](#) and [supplemental report form](#) (v. 2016), and expand into additional states as feasible. Refine the analyses and the guidance and form as needed and determine whether and how the work could be expanded by seeking grant opportunities. Continue building the [human factors product webpage](#) in the Lighthouse and the resources in the [Lighthouse Library](#). Communicate and coordinate with the [National Boating Safety Advisory Council \(NBSAC\)](#) as it pursues work in this area.

- ✓ **Why it's important:** Investigations into accidents for other transportation modes indicate the majority of causes or contributing factors are related to human failures. But getting to conclusive evidence about the role of such errors in recreational boating accidents—and developing interventions—calls for consistently-collected data and information identifying the contributors *and* getting at why and how failures occurred. Over five years ago, ERAC began working to understand the factors that might be associated with performance failures, and has since refined guidance and a supplemental report form for use by officers/investigators in states that want to augment their investigations.
- ✓ **Deliverables:** (most recent issuance) [HFACS-Lite Applied to a Sample of Florida Recreational Boating Accident Cases](#) (authored by the late Dr. Dan Maxim, Aug. 5, 2017).
- ✓ **Status:** In the 2017-2018 cycle, three activities were identified: 1) give input to the USCG/ERAC accident reporting policy workgroup (**USCG/ERAC IR&A 2018-1**), specifically, items from the 2016 human performance supplemental report form for workgroup consideration as to possible data elements for national collection; 2) follow up on a 2016 NBSAC resolution by developing a grant proposal for an HFACS-lite based project to improve the methods for studying and understanding human factors in recreational boating incidents; and 3) assist states applying the supplemental form to active investigations of fatal boating accidents. The first—input to the policy workgroup—was taken up by the full ERAC and forwarded to the workgroup for use during its discussions on data elements. The second item—follow-up on the 2016 NBSAC resolution—was not considered in this cycle. As to the third item, two pilot states represented on the team have taken or will take steps toward the “live” collection of some human performance data as part of their investigations. In **Florida**, this year, the expectation was that investigators working fatal and serious injury accidents would use select components of the supplemental form—notably the distractions selections for operator inattention and improper lookout—to gather additional, quality information for assessing why operators are making certain choices. **Oregon** also is taking steps to get back into this effort over the next year; personnel are working on changing the report forms for the next boating season to include some of the operator distraction selections for officers to check off as applicable.
- ✓ **Measures of effectiveness:** Short-term: Human performance supplemental tool or portions thereof adopted by at least three test states. Long-range: More consistent, in-depth information on human performance, especially as pertains to operator distractions, gathered in accident investigations.
- ✓ **2018-2019 cycle recommendation:** Continue a charge in this area, with changes to scope. As the pilot states' efforts continue, they will report on progress and need to consult with each other and the charge team. Decisions still need to be made as to how best to fulfill the analytical part of this work as a result of the void created by the passing of long-time charge leader Dan Maxim in May 2018.



## RBS STATISTICS & RESEARCH

Identify and work to improve accident and other boating statistics for the purpose of identifying risk factors, patterns, and trends.

### Continue exploring boating fatality/casualty rate numerators (ERAC \_S&R 2018-1)

**Continue exploring the feasibility of changing the basis for calculating the numerator used in recreational boating fatality and casualty rates:** Review the findings of an [initial \(2017\) examination of the gap between the victim's residence \(state of origin\) and accident location \(the current basis for calculating the numerator\)](#). Determine whether more data needs to be reviewed for years not included in the initial study. By end of first quarter of 2018 cycle, make recommendation to the NASBLA Executive Board as to whether and how the charge should proceed or if the gap analysis suggests other research questions worthy of investigation

- ✓ **Why it's important:** While exposure hour-based statistics as the basis for the denominator in fatality or injury rates may be an improvement conceptually for assessing the risks associated with recreational boating, that change alone would not result in flawless measures, for example, of the effectiveness of a state's safe boating initiatives. The rate only accounts for where the fatality or injury occurred, not where the boat was registered or the victim resided. That is a potential issue for states with boating opportunities that attract a lot of boaters from other places—not only for how it affects the rate, but also for how it affects outreach efforts. Those out-of-state boaters may lack the local knowledge and will be, at least partially, products of their home states' boating safety cultures.
- ✓ **Deliverables: Exploring the numerator used in recreational boating fatality and injury rates: *A first look at the gap between the victim's state of origin and accident location*** (original release August 2017, updated March 2018 as final product; see **APPENDIX ERAC S&R 2018-1\_Exploring Gap Bwn Victim Residence and Accident Location**).
- ✓ **Status:** In the 2016-2017 cycle, with only 2012 exposure data available for use, the charge team could not conduct an extensive project, covering multiple years, to evaluate the pros and cons of changing the calculation of the numerator from one based on where accidents occurred to one based on the operators' state of residence. At the March 2017 ERAC meeting, then, the full committee decided it would be a useful first step to at least see how big a gap there was between accident location and victim's state of origin. A data set with five years' worth of fatalities and injuries was pulled, and a set of observations for discussion presented as an [appendix to the 2017 cycle final committee report](#). In the 2017-2018 cycle, the charge team reviewed the analysis and outcomes. At the March 2018 ERAC meeting, members recommended that while the results are interesting and potentially useful for states in considering their outreach to out-of-state boaters, it would not be a worthwhile use of ERAC or the Coast Guard's constrained resources to pull additional years or variables for further analysis at this time. Staff was asked to make necessary edits and updates to the preliminary report, and post the revised version as the final product for the current charge. That revised report is contained in **APPENDIX ERAC S&R 2018-1\_Exploring Gap Bwn Victim Residence and Accident Location** and will be posted to the Lighthouse Library.
- ✓ **2018-2019 cycle recommendation:** No carryover; charge completed as revised. When additional exposure hour data becomes available from the next National Recreational Boating Safety Survey—to assess *how much* out-of-state boaters are on the water as opposed to just knowing the percentage of out-of-state boaters involved in accidents—ERAC will revisit the merits of a charge in this area.

## Monitor activities associated with the Coast Guard's 2018 NRBSS and other safety/participation surveys conducted at the national and state-levels (ERAC 2018 Monitoring Activity)

In accord with the MOU between the U.S. Coast Guard and NASBLA (Feb. 2016), and in service to the states' interests, monitor activities with the NRBSS (as possible, in light of significant changes to the 2018 methodology and survey administration) and maintain the [dedicated NRBSS webpage](#) at the Lighthouse to reflect updates. Stay informed about other, similar survey efforts and, as possible, assist any states that request feedback on their survey methodology or collection instruments.

- ✓ **Status:** The current version of the NRBSS again consists of two components—one to get at participation (national picture) and another to gather information to calculate exposure hours (down to the state level). Under revised methodology, the participation survey (numbers of boaters, socioeconomic, demographic and other related data on who boats and who doesn't) is collecting data on a quarterly basis this year, and the exposure survey (number of boating days, hours, people on board and related data) is collecting on a monthly basis. Both are being conducted by mail, with an option for web-based response. The participation survey is expected to be conducted every five years, and the exposure hours every two years. As of this report date, the expectation is that the last monthly exposure surveys (for December 2018) will begin the first full week in January and continue until mid-February 2019. The final quarterly participation survey (covering October through December 2018) will also begin the first week of January and continue until mid-February 2019. Per status updates from the Coast Guard and Dr. Ed Mahoney (Michigan State University), the grantees conducting this round of surveying, RTI International (a Research Triangle, NC-based non-profit firm) and MSU, are in process of reviewing the data collected thus far and recommending cleaning protocols. Syntax for these protocols will then be developed and tested, a process expected to reduce the time required to begin data analyses after the close of data collection.
- ✓ **2018-2019 cycle recommendation:** Continue to monitor the survey progress, and await the release of data in 2019 before making any future charge recommendations.

## Assist the NASBLA Paddlesports Committee charge on data and trends

In areas of mutual data and research interests and trends identification, ERAC will partner with the Paddlesports Committee on its related charge (Charge 1 for 2018) and engage in work to develop a comprehensive knowledge base on paddlesports accidents and related statistics.

- ✓ **Status:** In this 2017-2018 cycle, during the March 2018 committee meetings in Lexington, Ky., ERAC and Paddlesports conducted a joint session on two charges—this charge and one on flotation issues. For highlights on these discussions, see pages 9-10 of the meeting summary in **APPENDIX ERAC-2018-Committee Meeting**. The recommendation to the Paddlesports Committee was to identify information they deemed important for building profiles on paddlesports' participants and to deliver their suggestions for data fields to the USCG/ERAC accident reporting policy workgroup (see **USCG/ERAC\_IR&A-2018-1**); the workgroup would in turn take the input into consideration as part of making recommendations on data elements to be collected nationally. Paddlesports Committee members made initial recommendations, with follow-up detail provided by mid-March. The policy workgroup took up the items in April and again this summer, and have included some of the paddlesports-specific items among its initial report data recommendations. Also, since the March session, a Coast Guard non-profit organization grant has been awarded to the American Canoe Association (ACA), which is partnering with NASBLA and the Outdoor Industry Association's

non-profit Outdoor Foundation to conduct components of a project titled, “Paddlesports Statistical Analysis: Participation, Demographics & Accidents.”

- ✓ **2018-2019 cycle recommendation:** Continue collaborative work in this area, with initial emphasis on refining data elements as part of the USCG/ERAC policy workgroup’s efforts, but expanding into review and feedback on the survey instrument(s) that will be developed as part of the Paddlesports Statistical Analysis grant project described under **Status**. Participate, as possible, in the analysis of both the fatality accident data and project survey data (as it becomes available).

## ENGINEERING & EQUIPMENT

Identify and examine engineering issues, equipment design and related efforts that could mitigate risk factors identified through the committee’s activities.

### Identify best approaches for capturing/recording/analyzing role of vessel hull and other design characteristics in accidents (ERAC\_E&E 2018-1)

**Identify, test, evaluate approach(es) for capturing and recording vessel hull design characteristics and related detail in accident investigations:** Continue beta test with selected states that have agreed to incorporate additional questions to their boating accident investigations and forms. Evaluate initial findings mid-cycle and make refinements as needed. Supplement with analyses of already-investigated cases from select states. Intent is to capture and analyze such data to allow for improved understanding of potential design flaws that may lead to serious injury or death and to better understand the role of the operator and possible operator error vis-à-vis design characteristics

- ✓ **Why it’s important:** Handling issues surfaced in relation to “Texas Flats” and other shallow water boats. Those issues, associated with tragic accidents, have been described in detail by state members in past NASBLA forums as well as in USCG Boating Safety Circulars [88](#) (Fall 2014) and [89](#) (Spring 2016). The Coast Guard, in discussions on these incidents and in seeking resolution of them, has placed emphasis on whether or not BARD results show the issue to be significant and national in scope. Currently, however, hull and other vessel design information is not systematically gathered in BARD for ongoing evaluation or when circumstances arise. Like other efforts to increase the quality and consistency of accident detail, the task is to balance need for information with the ability to identify the best—and most officer-friendly—means for recording these characteristics, and to understand the role of the operator and operator experience or error vis-a-vis design characteristics.
- ✓ **Deliverables:** See **Status** for detail.
- ✓ **Status:** The “additional question” referenced in the charge description was “*Were there any features or design characteristics of this vessel that may have contributed to this accident? \_\_\_ Yes \_\_\_ No; If Yes, then describe thoroughly in the narrative.*” With this approach, the intent was to frame the collection of information in a way that would not leave the investigating officer to scrutiny without benefit of extensive testing of the vessel, but instead would encourage the officer to look more closely at the totality of the circumstances of and potential contributors to the incident. Further, the intent was not to employ the question as a way of excusing the operator or, alternately, of posting blame to a manufacturer. Massachusetts instituted the question on its state BAR form for investigating officers; however, to date, there have not been any applicable accidents and as such, no data to analyze.

At the ERAC March 2018 meeting, the consensus was to take up the vessel hull and other design characteristics as part of the USCG/ERAC accident reporting policy workgroup's discussions on data elements and fields that should be incorporated into the national collection (see **USCG/ERAC\_IR&A-2018-1**). To date, and subject to its further refinement through the review process, the workgroup has drafted the following: the addition of a question for mandatory data collection in the form of *"Is there a possibility that any features or design characteristics of the vessel may have contributed to this accident? \_\_\_"* A check-off in this field would indicate "yes," and require follow-up description in the narrative. The workgroup further cautions, however, that if such a question and field ultimately were to be approved for national collection, more detailed guidance would need to be developed and available for an officer to consider in order to determine whether and how to appropriately respond.

- ✓ **Measures of effectiveness:** Long-range: More consistent, accurate, and viable accident report data gathered for use by the states and submitted by the states to the U.S. Coast Guard.
- ✓ **2018-2019 cycle recommendation:** No carryover as a separate charge. Continue to monitor any activity and data that may be collected from the question currently in use in the pilot state, but put the emphasis on refining the question/data element in response to state feedback that will be solicited through the USCG/ERAC accident reporting policy project review and approval process.

### **Marine carbon monoxide incidents and detection systems (ERAC\_E&E 2018-2)**

**Revised Charge--Develop resources re marine carbon monoxide incidents and detection systems (revised March 3, 2018):** Develop investigative guidance for recognizing and reporting carbon monoxide incidents and compile and present related resources on CO detection. Pattern the work on products and resources for electric shock drownings (ESDs) (see <https://www.nasbla.org/lighthouse/esd-resources>).

- ✓ **Why it's important:** Each year, boaters are injured or killed by exposure to carbon monoxide (CO). Most incidents occur on older boats and within the cabin or other enclosed areas. Exhaust leaks, the leading cause of death by carbon monoxide, can allow carbon monoxide to migrate throughout the boat and into enclosed areas. New areas of concern are the rear deck near the swim platform with the generator or engines running; teak surfing or dragging behind a slow-moving boat; and backdraft effect on many vessel types. All of this points to how critical it is that officers, investigators, and other first responders accurately recognize, assess, and report CO incidents.
- ✓ **Deliverables:** [Carbon Monoxide \(CO\) Incidents and Information Resource](#) webpage at the NASBLA Lighthouse Get Equipped portal; and ***Carbon Monoxide Incident Response and Investigation Checklist*** to assist officers, investigators, and other first responders in the accurate recognition and reporting of CO incidents (posted to the resource webpage and included in **APPENDIX ERAC E&E 2018-2\_CO Accident Response and Investigation Checklist**).
- ✓ **Status:** This charge was assigned to ERAC in late 2017 as a result of continuing interest in CO incidents and detection systems, and was refined as part of committee discussions at the March 2018 ERAC meeting. Products associated with the revised charge have been completed.
- ✓ **2018-2019 cycle recommendation:** No carryover as a separate charge. The resource webpage and related library holdings, however, should be updated as part of the maintenance of the Lighthouse.

**Continue examining basic flotation issues as they apply to canoes and kayaks and assisting the NASBLA Paddlesports Committee with its charge on flotation standards (to work with ABYC on updating H-29)**

- ✓ **Why it's important:** Interest was sparked by reviews in more recent years of canoe and kayak accidents involving people swimming away from – or attempting to swim away from – their vessels after capsizings: this, in contrast to experiences with older aluminum craft that allowed people to stay and stay afloat with their vessels. Reports of vessels sinking or barely maintaining at the surface (and perhaps not allowing support of a human body) *at least suggested* that the involved may not have had an alternative other than to swim away. Such reports, coupled with reviews of limited data, raised questions about vessel materials and manufacture of some canoes and kayaks, as well as the efficacy of education on the use of PFDs and of devices for flotation, generally.
- ✓ **Status:** In this 2017-2018 cycle, during the March 2018 committee meetings in Lexington, Ky., ERAC and Paddlesports conducted a joint session on two charges—this charge and one on data and trends. For highlights on these discussions, see pages 9-10 of the meeting summary in **APPENDIX ERAC-2018-Committee Meeting**. Liaison work with a subgroup of Paddlesports, ERAC and manufacturers to collect comments on the standard has been positive to date. Getting manufacturers involved in the standards process and on the front end of discussions about what is the appropriate level of flotation has been important. There is now increasing awareness of the standard and need to increase flotation.
- ✓ **2018-2019 cycle recommendation on this activity:** Continue joint efforts between Paddlesports, ERAC and manufacturers to increase awareness of and improvements to the ABYC standard and flotation in these craft.

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