



USBI Failed VSC Data Collection Program Analysis July 2012-June 2013

Executive Summary

Since implementation in 2012, the United Safe Boating Institute (USBI) collected data on 6,644 failed Vessel Safety Checks (VSC) from U.S. Coast Guard Auxiliary (Auxiliary) and U.S. Power Squadrons (USPS) Vessel Examiners. This breaks down into 1,131 reported by the Auxiliary (17% of total) and 5,513 by the USPS (83% if total). Data was reported on failed VSC from 45 states, Washington DC, Guam, and Puerto Rico.

The 6,644 failed VSCs reported indicated a total of 12,399 reasons for failure, with 53% of the failed VSC's reporting multiple failures per VSC. The average number of failures reported per VSC was approximately 2.0, consistent for both organizations and consistent with data reported in 2012 and 2013.

Overview and Analysis

The USBI, with support of the Auxiliary and USPS, has developed a pilot test collection program to evaluate operator compliance with equipment carriage requirements. Six states were selected to participate in this pilot including Massachusetts, Michigan, Missouri, North Carolina, Texas, and Washington State.

USBI has developed a web site to be used to collect data on pleasure boat VSC failures **ONLY** (no paddle craft) starting July 1, 2012. The web site offers a simple one page "point and click" report used for listing reasons the exam failed along with a few identifying bits of information such as location of exam, type of water the boat is used on, length of boat, date, and parent organization of the examiner.

A review of the data since implementation shows the following:

1. A total of 1,131 failed vessel safety checks were reported by Auxiliary vessel examiners, with a total of 2,006 failure reasons identified. This compares to 5,513 failed vessel safety checks reported by the USPS, with a total of 10,393 failure reasons identified.
2. In terms of "Area of Operations", "Inland" was identified for 55% of the failed VSCs, followed by 42% for "Coastal", and only 3% reported "River". The following is a breakdown between Auxiliary and USPS:

AREA	USCGA	USPS	TOTAL	% OF TOTAL
Coastal	570	2,194	2,764	42%
Inland	526	3,134	3,660	55%
River	35	185	220	3%
TOTAL	1,131	5,513	6,644	

When compared to data provided in the 2012 Recreational Boating Statistics Report, 74% of the accidents and 81% of the deaths occurred on bodies of water identified as "inland" (lakes, ponds, reservoirs, dams, gravel pits, rivers, streams, creeks, swamps, and bayous). The remaining accidents and deaths were reported on areas of operations that could be considered "Coastal (ocean/gulf, Great Lakes, bays, inlets, marinas, sounds, harbors, channels, canals, sloughs, and coves).

3. Regarding vessel length, 54% of the failed VSCs were on vessels identified as less than 26 feet in length. The following is a breakdown of reported failed VSCs by vessel length recorded:

Length	USCGA	USPS	TOTAL	% OF TOTAL
Unknown	15	20	35	1%
16 Feet	344	757	1,101	17%
25 Feet	132	2,416	2,548	38%
26 Feet	406	1	407	6%
39 Feet	17	1,797	1,814	27%
40 Feet	165	1	166	2%
65 Feet	52	521	573	9%
>65 Feet	0	0	0	0%
TOTAL	1,131	5,513	6,644	

When compared to data provided in the 2012 Recreational Boating Statistics Report, 75% of the vessels involved in an accident and 83% of the vessels involving death were reported on vessels less than 26 feet in length.

4. Approximately 47% of Auxiliary reported failed VSCs reported multiple failures, compared to 54% for the USPS. This resulted in an overall average of 2.0 failed items reported per failed vessel safety check, consistent for both Auxiliary and USPS. However, approximately 2% of the reported failed VSCs failed to indicate reason(s) for failure. The following is a breakdown of the number of failures reported per failed VSC:

# Failures per Failed VSC	USCGA	USPS	TOTAL	% OF TOTAL
0	41	91	132	2%
1	562	2,449	3,011	45%
2	307	1,789	2,096	32%
3	139	728	867	13%
4	50	283	333	5%
>4	32	173	205	3%
TOTAL	1,131	5,513	6,644	

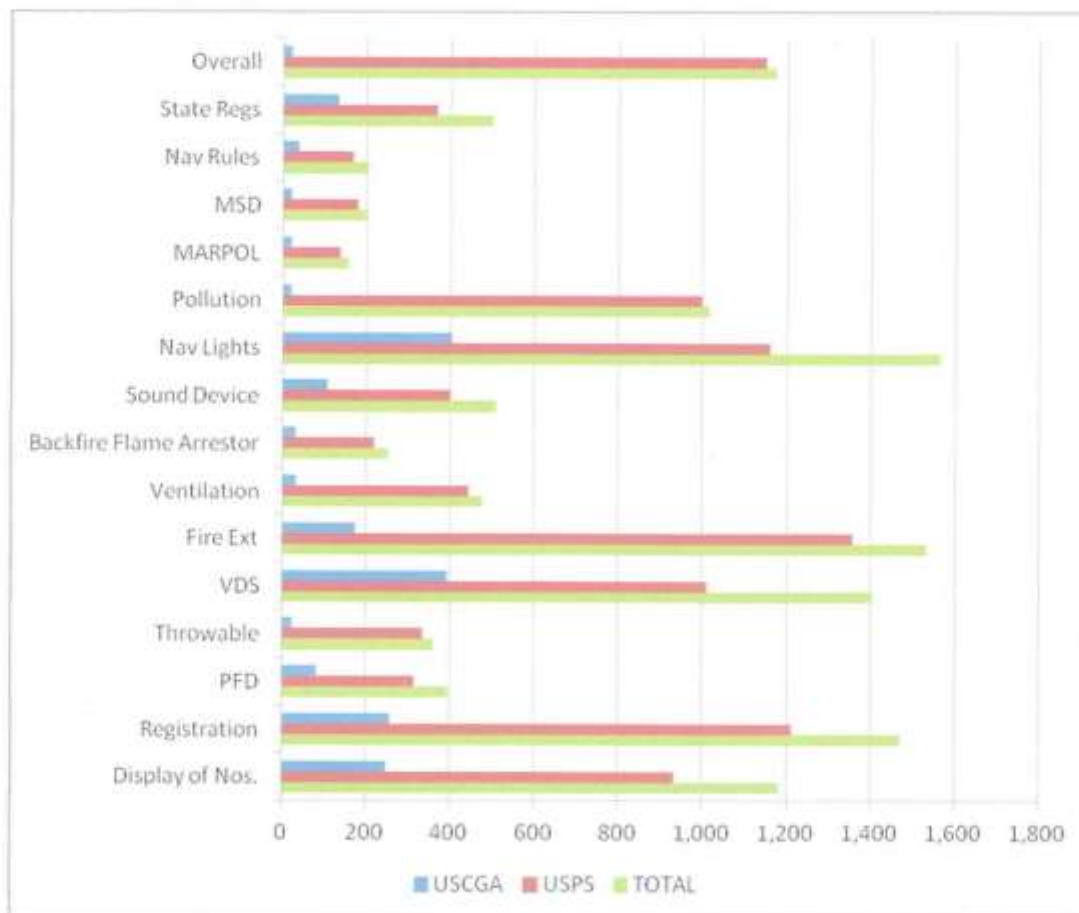
5. The top five contributors to failed VSCs include navigation lights (13%), fire extinguishers (12%), registration (12%), VDS (11%), and display of numbers. The following table summarizes the number of failures by category for the Auxiliary, USPS, and combined total:

Reason for Failure	Auxiliary Reported Failures	% of Total USCGA Failures	USPS Reported Failures	% of Total USPS Reported Failures	Total Reported Failures	% of Total Reported Failures
Display of Nos.	249	12%	933	9%	1,182	10%
Registration	258	13%	1,213	12%	1,471	12%
PFD	81	4%	316	3%	397	3%
Type IV Throwable PFD	24	1%	335	3%	359	3%
VDS	393	20%	1,012	10%	1,405	11%
Fire Extinguisher	173	9%	1,359	13%	1,532	12%
Ventilation	32	2%	443	4%	475	4%
Backfire Flame Arrestor	33	2%	219	2%	252	2%
Sound Device	108	5%	402	4%	510	4%
Navigation Lights	403	20%	1,162	11%	1,565	13%
Pollution Placard	20	1%	997	10%	1,017	8%
MARPOL	20	1%	137	1%	157	1%

MSD	20	1%	179	2%	199	2%
Navigation Rules	38	2%	167	2%	205	2%
State Regulations	133	7%	368	4%	501	4%
Overall Condition	21	1%	1,151	11%	1,172	9%
TOTAL	2,006		10,393		12,399	

Note: In late May, the failure category "Overall Condition" was added to capture failures due to Item #15 on the Vessel Safety Check Form 7012. Failure due to missing "Type IV Throwable PFD" was dropped since it should be included under "PFD", consistent with Form 7012.

The following graph shows failures reported for Auxiliary, USPS, and Total:



6. The highest percentage of failures were reported in Florida, which accounts for approximately 14%, followed by Ohio at 10%, and Michigan at 9%. When compared to the data provided in the 2012 Recreational Boating Statistics Report, Florida ranked #1 in terms of registered vessels, accidents, deaths, and property damage.

The following is a breakdown failed vessel safety checks by state:

LOCATION	USCGA	USPS	TOTAL	% OF TOTAL
AK	3	0	3	0.0%
AL	41	16	57	0.9%
AR	0	17	17	0.3%
AZ	0	24	24	0.4%
CA	4	264	268	4.0%
CO	0	1	1	0.0%
CT	8	71	79	1.2%
DE	0	7	7	0.1%
FL	212	712	924	13.9%
GA	53	88	141	2.1%
HI	2	13	15	0.2%
IA	5	5	10	0.2%
ID	0	1	1	0.0%
IL	21	126	147	2.2%
IN	0	54	54	0.8%
KS	0	2	2	0.0%
KY	3	49	52	0.8%
LA	0	49	49	0.7%
MA	0	95	95	1.4%
MD	26	303	329	5.0%
ME	1	29	30	0.5%
MI	214	407	621	9.3%
MN	4	113	117	1.8%
MO	65	38	103	1.6%
MS	1	21	22	0.3%
NC	82	380	462	7.0%
NH	0	17	17	0.3%
NJ	3	86	89	1.3%
NM	0	1	1	0.0%
NV	0	73	73	1.1%
NY	2	349	351	5.3%
OH	31	662	693	10.4%
OK	0	92	92	1.4%
OR	1	34	35	0.5%

PA	1	62	63	0.9%
RI	13	17	30	0.5%
SC	3	127	130	2.0%
TN	0	40	40	0.6%
TX	128	139	267	4.0%
VA	2	278	280	4.2%
VT	0	15	15	0.2%
WA	98	366	464	7.0%
WI	3	205	208	3.1%
WV	0	1	1	0.0%
WY	39	0	39	0.6%
DC	0	1	1	0.0%
PR	61	63	124	1.9%
GU	1	0	1	0.0%
TOTAL	1,131	5,513	6,644	

* Original pilot states selected for project

Observations

1. The Auxiliary reported approximately 8,700 failed power boat VSCs during 1H2013 (based on AUXDATA reporting). However, only 7% were entered in the USBI data base. This percentage is consistent with that observed during 1Q2013 and 2012.
2. With a few exceptions, there is some consistency between the Auxiliary and USPS when looking at the type of failures reported. Navigation Lights, VDS, and Boater Registration rank in the top five reasons for failure by both organizations.
3. There continues to be some confusion with VDS requirements. A review of the 1,405 VDS reported failures (393 - Auxiliary, 1,012 - USPS), shows that 44% of the failures (27% Auxiliary, 50% USPS) were reported on vessels where area of operation was reported as either "Inland" or "River". Federal VDS requirements apply to vessels operating on U.S. coastal waters or Great Lakes, so there is some concern as to whether the requirement is being properly interpreted. The only other explanation would be if the vessel is operated on Great Lakes, State requirements indicate VDS is required, or area of examination was incorrectly reported.
4. There were 157 reported failures for MARPOL issues (20 - Auxiliary, 137 - USPS). MARPOL placard requirements pertain to vessels 26 feet or more; however two of the reported failures by the Auxiliary and 32 reported failures for USPS were for vessels with a length noted as less than 26 feet in length. Additionally, In December 2012, "Interim Guidance for Completion of Form ANSC 7012" was issued advising all VEs to consider Item 11 on Form ANSC 7012 as "N/A" for all vessels for the Calendar Year 2013 or until otherwise directed pending domestic rule making regarding MARPOL requirements.

5. Oil Pollution placard requirements are applicable for vessels 26 feet or greater. Of the 1,017 failures reported (20 -Aux, 997-USPS), one Auxiliary reported failure and 522 USPS reported failures were on vessels less than 26 feet in length. Note that 97% of the reported failures for USPS were reported in 2012 along with 98% of the failures on vessels less than 26 feet in length.
6. Regarding Navigation Rules on board, there were 205 failures reported (38 -Aux, 167-USPS). This requirement is for vessels 39.4 feet or greater in length. However, 45 of the reported failures (11-Aux, 34 -USPS) were for vessels reported to be less than 39 feet in length.

Recommendations

1. Reasons for failed Auxiliary VSCs are not reported in AUXDATA. With approximately 30,000 failed VSCs 2012 and 8,700 during 1Q2013, this project would allow information to be collected and analyzed for possible trends and training opportunities. A Communication Plan to role the project out nationally has been submitted for review and approval.
2. Current reporting is limited to power/sailing vessels only (Form 7012 VSCs). However, based on the 2012 Recreational Boating Statistics Report, 24% of the drownings occur on paddle craft. At some point consideration should be given to expanding data collection to paddle craft since they represent the fastest growing boating segment.
3. Provide a copy of this report to all DSOs so they can see the results and share with their VE. This might help in gaining more support.