

US EPA ARCHIVE DOCUMENT



*This document includes Appendix D: Boater Survey Results, for the EPA report Final No-Discharge Zone Evaluation. The reference number is: EPA-842-R-04-001.*

## Final No Discharge Zone Evaluation

Appendix D: Boater Survey

August 2004

## **APPENDIX D**

### **Boater Survey Results**

## **APPENDIX D-1**

### **Boater Survey Results for Individual Survey Questions**

Table D-1. Owner of the Boat (Q1)

Owner	Number	Weighted Percent	Standard Error
Yes	907	95.2	1.1
No	46	4.8	1.1
Missing	5	.	.

Figure D-1. Owner of the Boat (Q1)

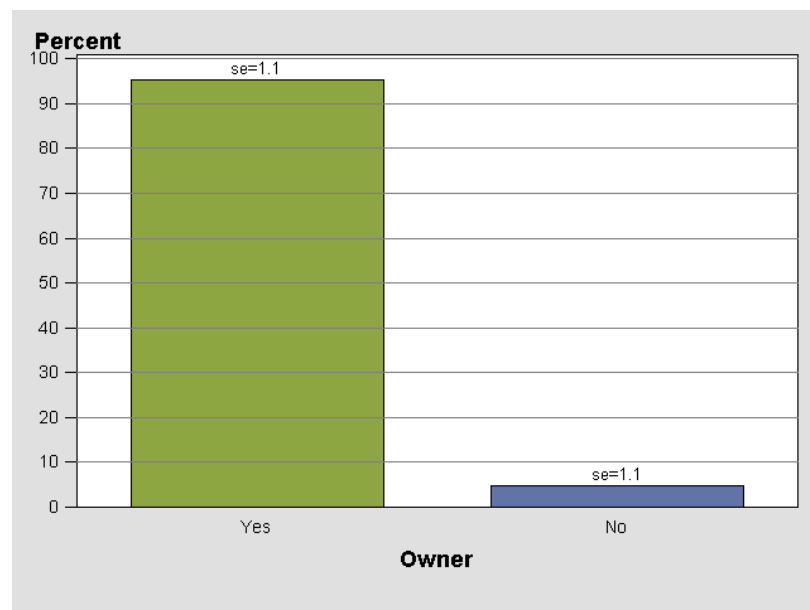


Table D-2. Length of Boat (Q2)

Length (feet)	Number	Weighted Percent	Standard Error
<20	57	6.3	1.5
20-24.9	113	12.5	1.3
25-29.9	219	22.8	1.9
30-34.9	219	23.4	1.5
35-39.9	142	14.6	1.3
40-44.9	107	10.7	1.2
45+	99	9.9	1.3
Missing	2	.	.

Figure D-2. Length of Boat (Q2)

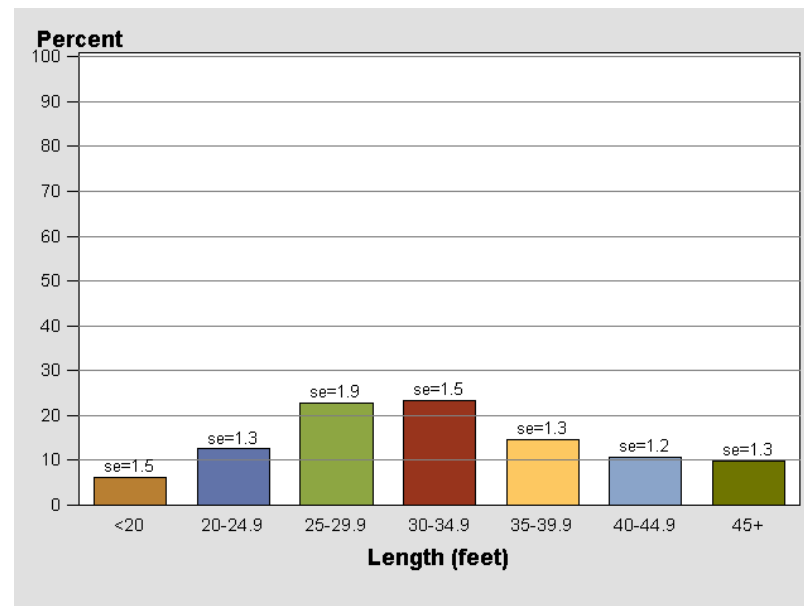


Table D-3. Draft of Boat (Q3)

Draft (feet)	Number	Weighted Percent	Standard Error
<2.0	89	10.1	1.8
2-2.9	182	20.5	1.7
3-3.9	337	36.2	2.1
4-4.9	163	17.6	1.4
5+	151	15.7	2.1
Missing	36	.	.

Figure D-3. Draft of Boat (Q3)

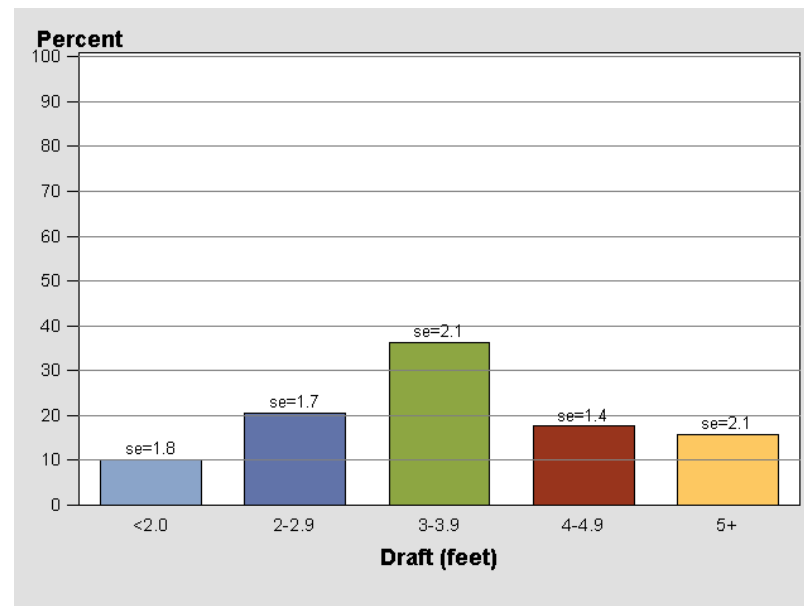
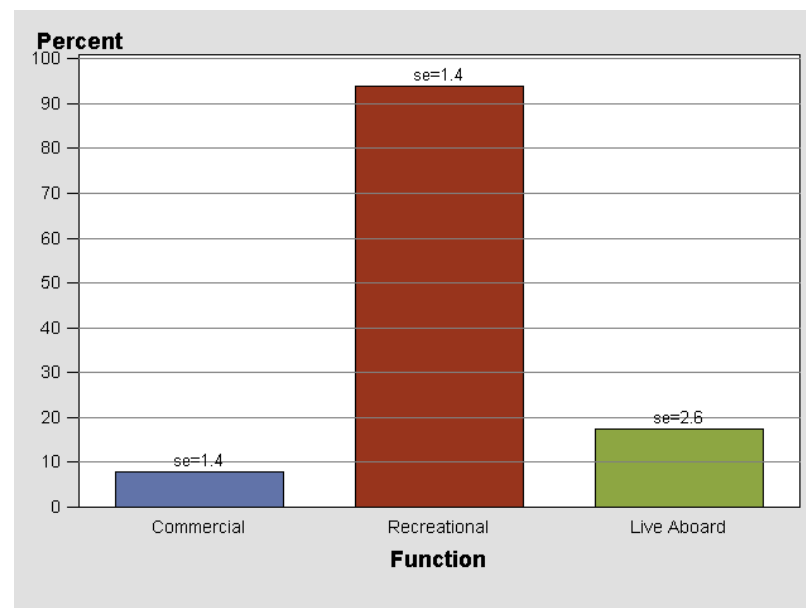


Table D-4. Function of Boat (Q4)

Function	Response	Number	Weighted Percent	Standard Error
Commercial	Yes	51	7.9	1.4
Commercial	No	632	92.1	1.4
Commercial	Missing	275	.	.
Recreational	Yes	866	93.9	1.4
Recreational	No	54	6.1	1.4
Recreational	Missing	38	.	.
Live Aboard	Yes	124	17.3	2.6
Live Aboard	No	590	82.7	2.6
Live Aboard	Missing	244	.	.

Figure D-4. Function of Boat (Q4)



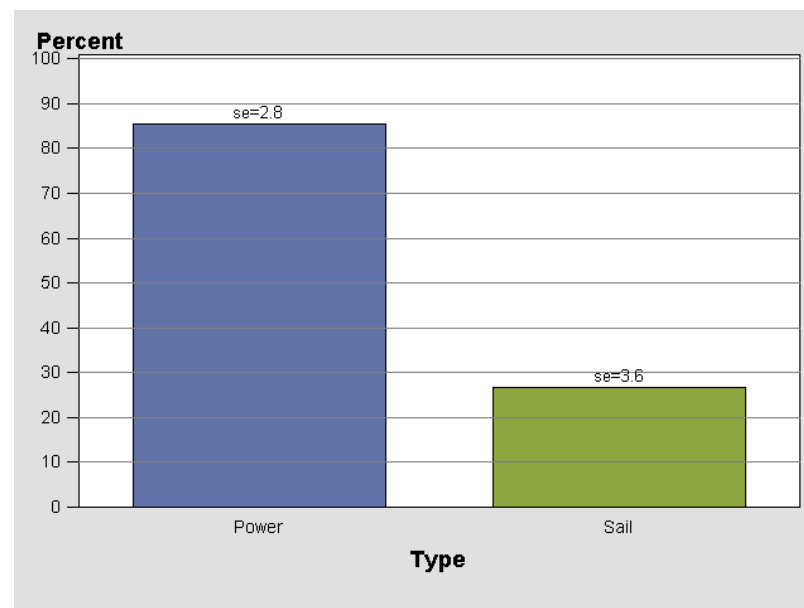
multiple response item - observations may be classified in more than one bar



Table D-5. Type of Boat (Q5)

Type	Response	Number	Weighted Percent	Standard Error
Power	Yes	764	85.5	2.8
Power	No	129	14.5	2.8
Power	Missing	65	.	.
Sail	Yes	198	26.8	3.6
Sail	No	524	73.2	3.6
Sail	Missing	236	.	.

Figure D-5. Type of Boat (Q5)

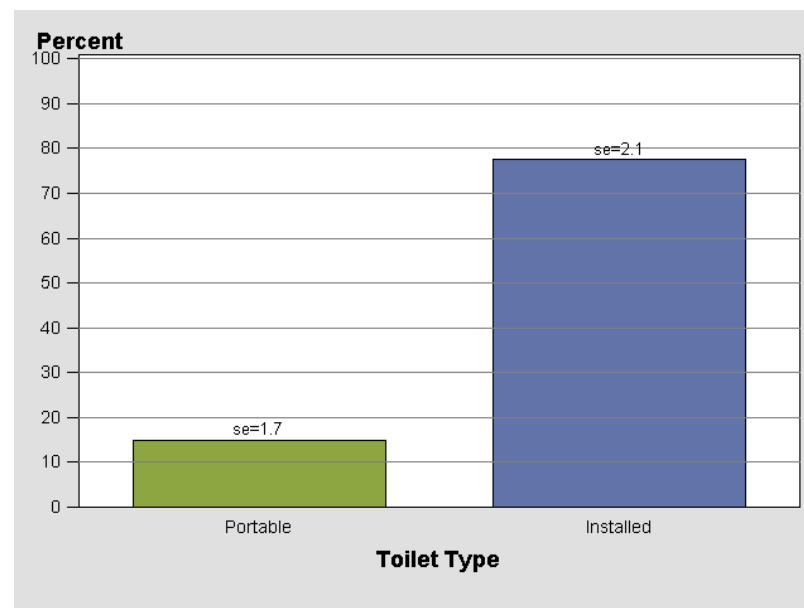


multiple response item - observations may be classified in more than one bar

Table D-6. Type of Toilet in Boat (Q6)

Toilet Type	Response	Number	Weighted Percent	Standard Error
Portable	Yes	136	14.8	1.7
Portable	No	820	85.2	1.7
Portable	Missing	2	.	.
Installed	Yes	746	77.5	2.1
Installed	No	210	22.5	2.1
Installed	Missing	2	.	.

Figure D-6. Type of Toilet in Boat (Q6)

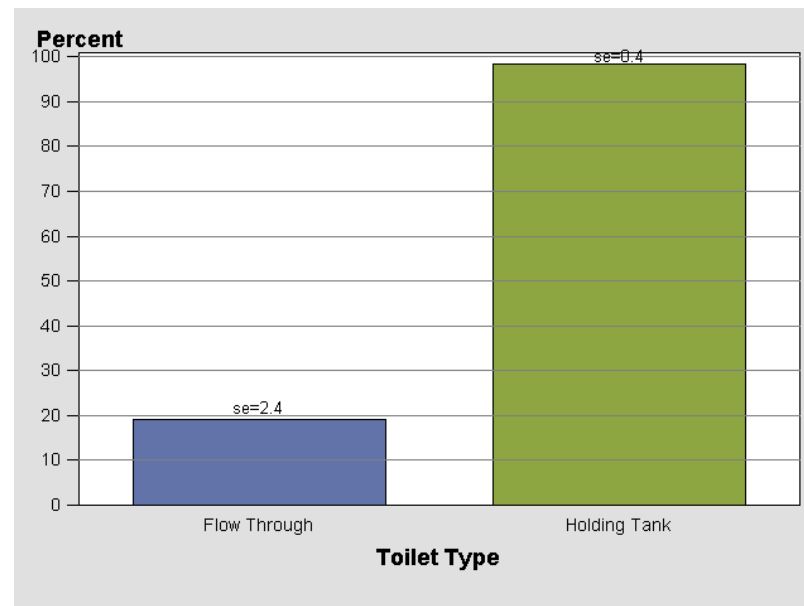


multiple response item - observations may be classified in more than one bar

Table D-7. Type of Installed Toilet in Boat (Q7)

Toilet Type	Response	Number	Weighted Percent	Standard Error
Flow Through	Yes	134	19.2	2.4
Flow Through	No	613	80.8	2.4
Flow Through	Missing	1	.	.
Flow Through	Appropriate skip	210	.	.
Holding Tank	Yes	736	98.5	0.4
Holding Tank	No	11	1.5	0.4
Holding Tank	Missing	1	.	.
Holding Tank	Appropriate skip	210	.	.

Figure D-7. Type of Installed Toilet in Boat (Q7)

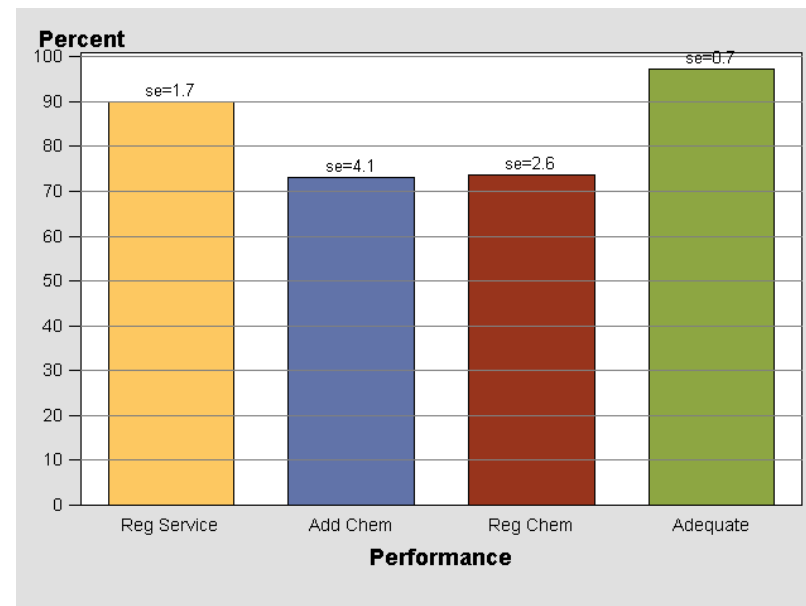


multiple response item - observations may be classified in more than one bar

Table D-8. Service and Performance of Installed Toilet (Q8)

Performance	Response	Number	Weighted Percent	Standard Error
Reg Service	Yes	656	90.1	1.7
Reg Service	No	74	9.9	1.7
Reg Service	Missing	18	.	.
Reg Service	Appropriate skip	210	.	.
Add Chem	Yes	526	73.0	4.1
Add Chem	No	188	27.0	4.1
Add Chem	Missing	34	.	.
Add Chem	Appropriate skip	210	.	.
Reg Chem	Yes	530	73.7	2.6
Reg Chem	No	194	26.3	2.6
Reg Chem	Missing	24	.	.
Reg Chem	Appropriate skip	210	.	.
Adequate	Yes	710	97.2	0.7
Adequate	No	20	2.8	0.7
Adequate	Missing	18	.	.
Adequate	Appropriate skip	210	.	.

Figure D-8. Service and Performance of Installed Toilet (Q8)

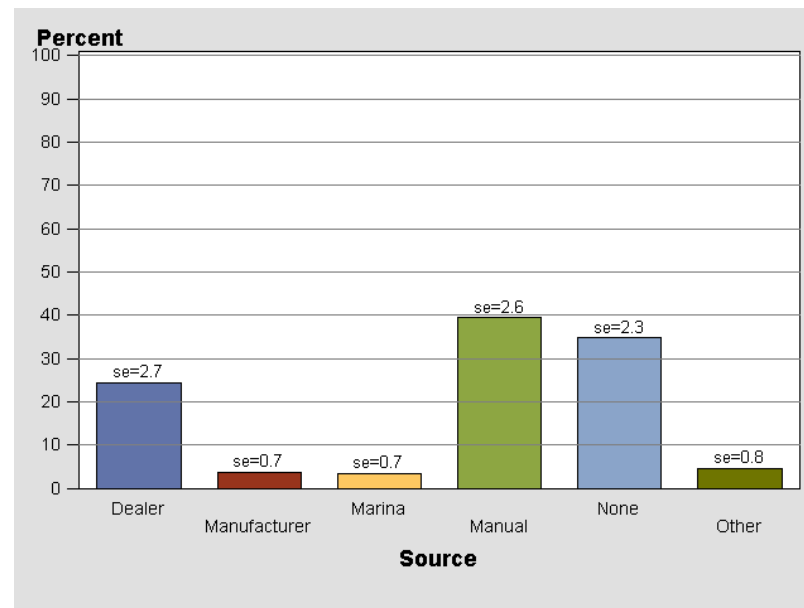


multiple response item - observations may be classified in more than one bar

Table D-9. Source of Training for Operation of Installed Toilet (Q9)

Source	Response	Number	Weighted Percent	Standard Error
Dealer	Yes	176	24.4	2.7
Dealer	No	572	75.6	2.7
Dealer	Appropriate skip	210	.	.
Manufacturer	Yes	31	3.8	0.7
Manufacturer	No	717	96.2	0.7
Manufacturer	Appropriate skip	210	.	.
Marina	Yes	24	3.4	0.7
Marina	No	724	96.6	0.7
Marina	Appropriate skip	210	.	.
Manual	Yes	299	39.4	2.6
Manual	No	449	60.6	2.6
Manual	Appropriate skip	210	.	.
None	Yes	261	34.8	2.3
None	No	487	65.2	2.3
None	Appropriate skip	210	.	.
Other	Yes	33	4.6	0.8
Other	No	717	95.4	0.8
Other	Appropriate skip	208	.	.

Figure D-9. Source of Training for Operation of Installed Toilet (Q9)



multiple response item - observations may be classified in more than one bar

Table D-10. Length of Training for Proper Use (Q10)

Training Length	Number	Weighted Percent	Standard Error
<30 min	155	76.5	4.1
30 min - 1 hour	30	13.9	2.3
2 hours	7	4.6	2.7
Half day	7	3.0	1.0
Full day	5	2.0	1.0
Missing	7	.	.
Appropriate skip	747	.	.

Figure D-10. Length of Training for Proper Use (Q10)

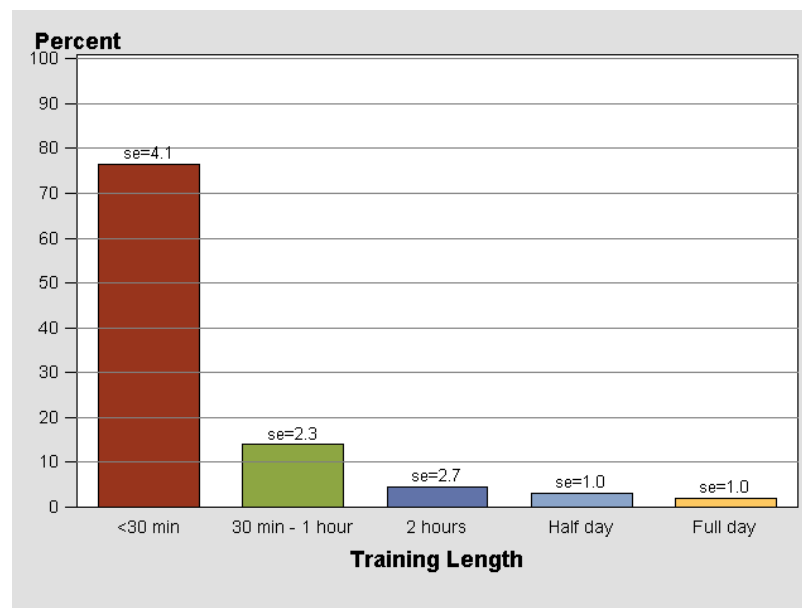
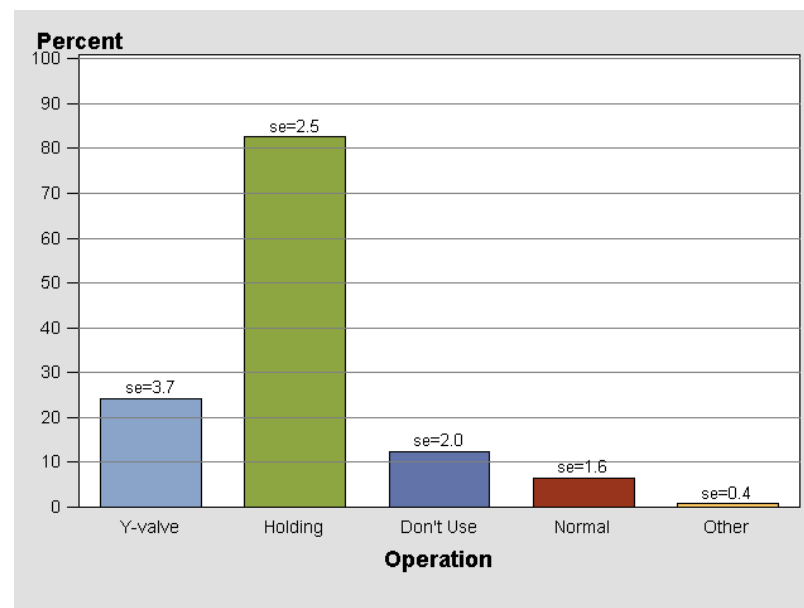


Table D-11. Operation of Installed Toilet in NDZ (Q11)

Operation	Response	Number	Weighted Percent	Standard Error
Y-valve	Yes	162	24.1	3.7
Y-valve	No	586	75.9	3.7
Y-valve	Appropriate skip	210	.	.
Holding	Yes	618	82.5	2.5
Holding	No	130	17.5	2.5
Holding	Appropriate skip	210	.	.
Don't Use	Yes	94	12.4	2.0
Don't Use	No	654	87.6	2.0
Don't Use	Appropriate skip	210	.	.
Normal	Yes	45	6.3	1.6
Normal	No	703	93.7	1.6
Normal	Appropriate skip	210	.	.
Other	Yes	4	0.7	0.4
Other	No	744	99.3	0.4
Other	Appropriate skip	210	.	.

Figure D-11. Operation of Installed Toilet in NDZ (Q11)



multiple response item - observations may be classified in more than one bar

Table D-12. Number of Days Boated in the 2003 Season (Q12)

Days	Number	Weighted Percent	Standard Error
0	21	2.6	0.6
1-9	115	13.4	1.3
10-19	125	13.9	1.7
20-29	165	18.9	1.4
30-39	141	17.0	1.4
40-49	57	6.8	1.0
50-99	123	14.4	1.6
100+	118	13.1	1.5
Missing	9	.	.
Appropriate skip	84	.	.

Figure D-12. Number of Days Boated in the 2003 Season (Q12)

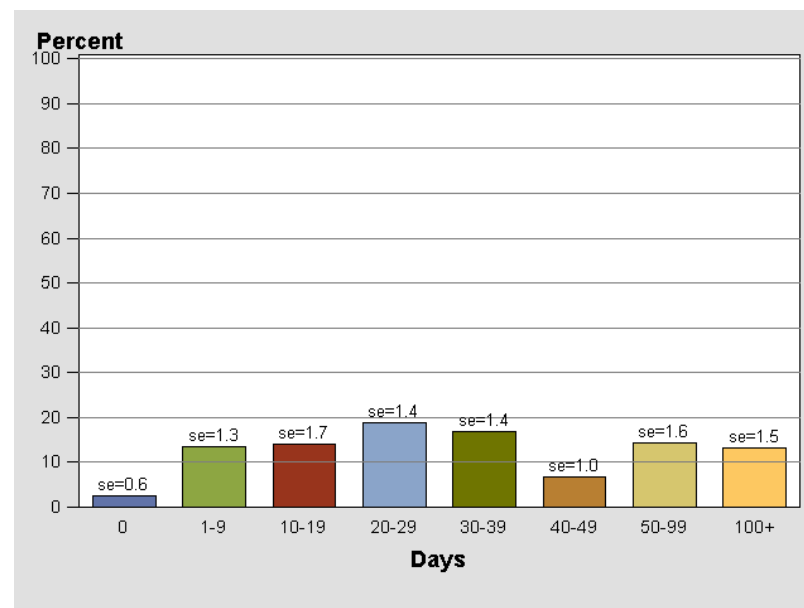




Table D-13. Number of Days Boated in the NDZ in the 2003 Season (Q13)

Days	Number	Weighted Percent	Standard Error
0	60	7.8	2.6
1-9	178	21.5	2.0
10-19	143	16.5	1.0
20-29	158	17.4	1.5
30-39	97	11.9	1.1
40-49	50	5.8	0.9
50-99	91	10.2	1.6
100+	75	9.0	1.3
Missing	22	.	.
Appropriate skip	84	.	.

Figure D-13. Number of Days Boated in the NDZ in the 2003 Season (Q13)

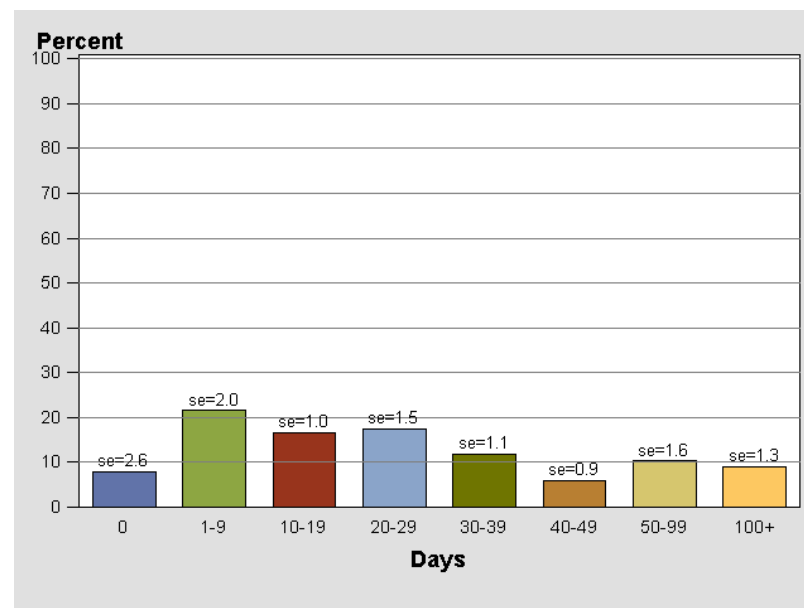


Table D-14. Type of Sewage Discharge Facility Used in 2003 (Q14)

Facility	Response	Number	Weighted Percent	Standard Error
Station Pump	Yes	430	51.7	3.2
Station Pump	No	383	48.3	3.2
Station Pump	Missing	61	.	.
Station Pump	Appropriate skip	84	.	.
Mobile Pump	Yes	244	31.3	3.3
Mobile Pump	No	521	68.7	3.3
Mobile Pump	Missing	109	.	.
Mobile Pump	Appropriate skip	84	.	.
Shore Pump	Yes	159	20.6	2.9
Shore Pump	No	608	79.4	2.9
Shore Pump	Missing	107	.	.
Shore Pump	Appropriate skip	84	.	.
Toilet Dump	Yes	47	7.0	1.1
Toilet Dump	No	686	93.0	1.1
Toilet Dump	Missing	141	.	.
Toilet Dump	Appropriate skip	84	.	.

Figure D-14. Type of Sewage Discharge Facility Used in 2003 (Q14)

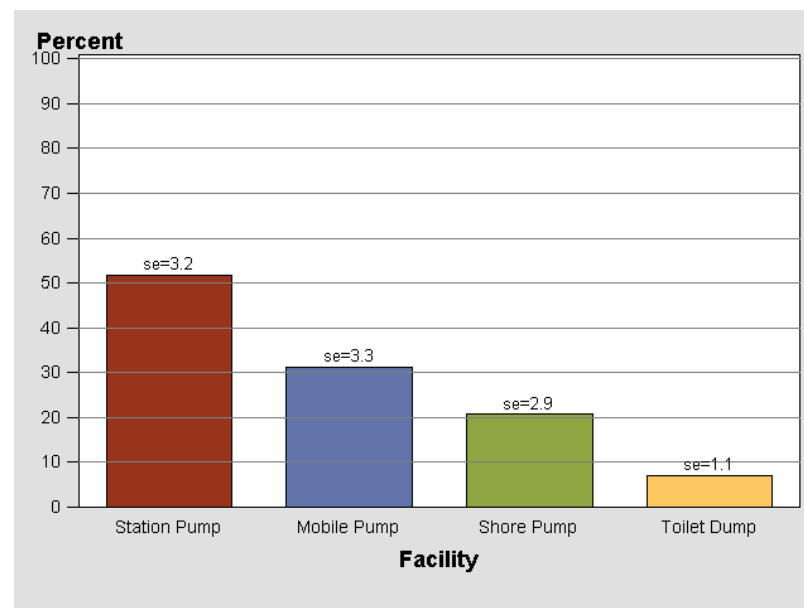


Table D-15. Arrangement with Marina to Pump Out Tank During Boater Absence (Q15)

Arrangement	Number	Weighted Percent	Standard Error
Yes	74	9.8	2.6
No	748	90.2	2.6
Missing	52	.	.
Appropriate skip	84	.	.

Figure D-15. Arrangement with Marina to Pump Out Tank During Boater Absence (Q15)

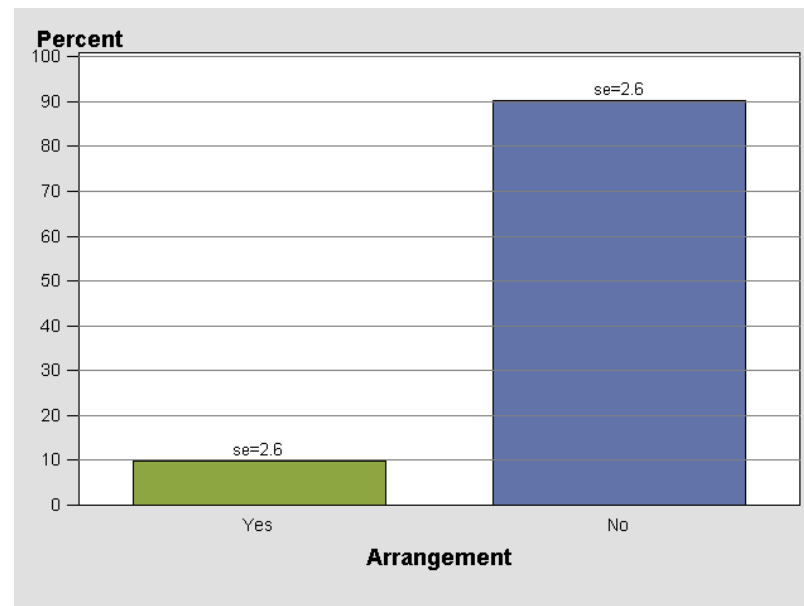


Table D-16. Pumpout or Toilet Dump Facility Used in 2003  
(Q16)

Facility Used	Number	Weighted Percent	Standard Error
Yes	524	60.3	2.7
No	336	39.7	2.7
Missing	14	.	.
Appropriate skip	84	.	.

Figure D-16. Pumpout or Toilet Dump Facility Used in 2003  
(Q16)

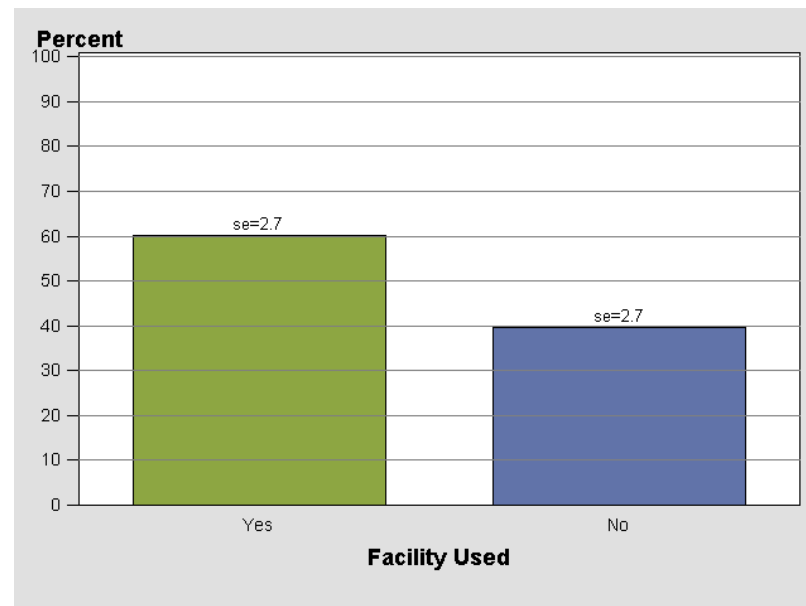


Table D-17. Number of Times Pumpout or Toilet Dump Facility was Used in 2003 (Q16A)

Number of Times	Number	Weighted Percent	Standard Error
1	70	14.4	1.9
2	82	16.6	1.4
3-4	104	20.9	1.9
5-9	106	20.1	1.9
10-19	95	18.1	1.8
20+	52	9.8	1.4
Missing	25	.	.
Appropriate skip	84	.	.
Not applicable	340	.	.

Figure D-17. Number of Times Pumpout or Toilet Dump Facility was Used in 2003 (Q16A)

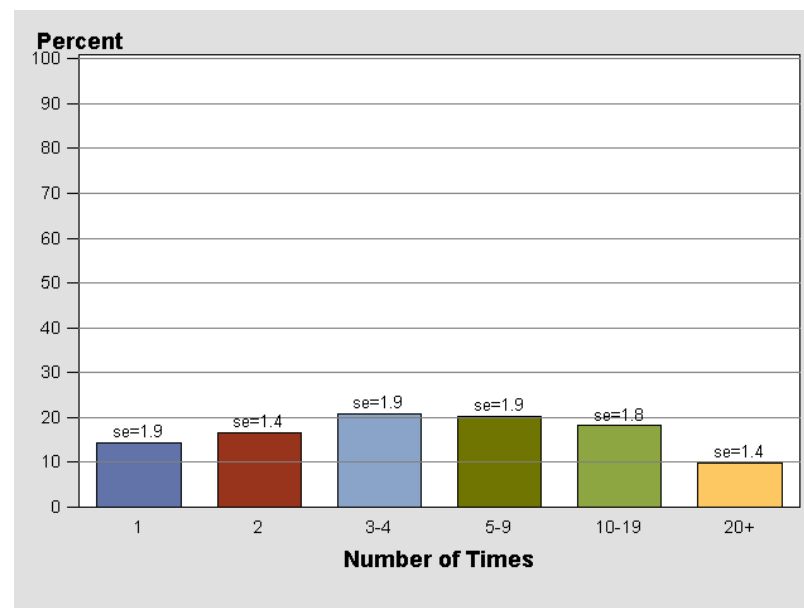


Table D-18. Trouble with a Pumpout or Toilet Dump Facility in 2003 (Q17)

Trouble	Number	Weighted Percent	Standard Error
Yes	79	9.2	1.4
No	632	74.2	2.4
No attempt	141	16.6	1.7
Missing	21	.	.
Appropriate skip	85	.	.

Figure D-18. Trouble with a Pumpout or Toilet Dump Facility in 2003 (Q17)

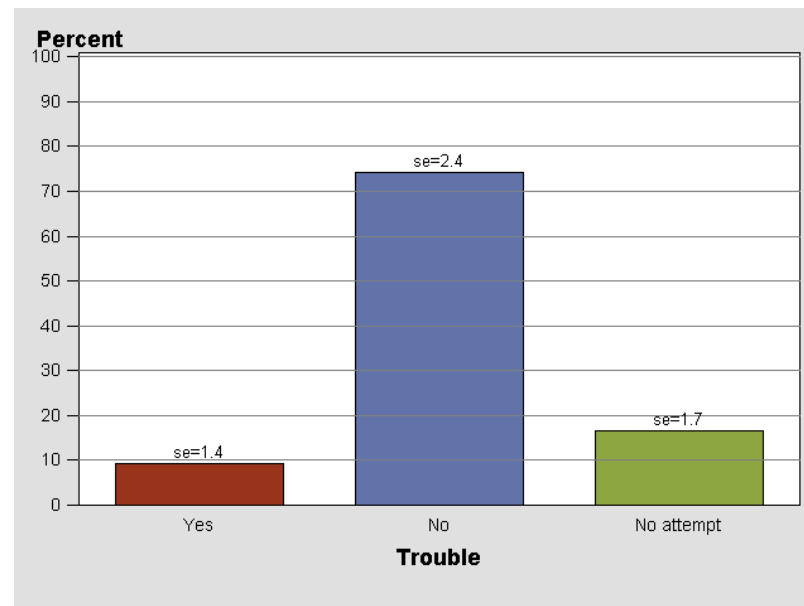


Table D-19. Number of Times a Boater had Trouble with a Pumpout or Toilet Dump Facility (Q17A)

Number of Times	Number	Weighted Percent	Standard Error
1	21	30.0	5.2
2	23	27.5	6.5
3-4	10	14.4	2.7
5-9	17	22.3	3.2
10-19	3	4.5	3.3
20+	1	1.3	1.2
Missing	23	.	.
Appropriate skip	85	.	.
Not applicable	775	.	.

Figure D-19. Number of Times a Boater had Trouble with a Pumpout or Toilet Dump Facility (Q17A)

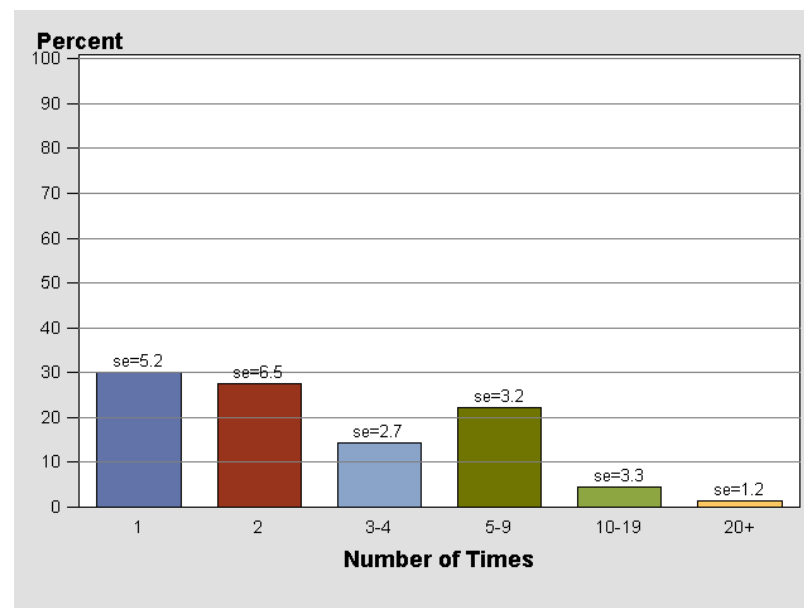


Table D-20. Trouble with the Pumpout or Toilet Dump Facilities on Last Trip in NDZ (Q18)

Trouble	Number	Weighted Percent	Standard Error
Yes	24	2.5	0.7
No	589	70.4	2.5
No attempt	229	27.1	2.4
Missing	27	.	.
Appropriate skip	89	.	.

Figure D-20. Trouble with the Pumpout or Toilet Dump Facilities on Last Trip in NDZ (Q18)

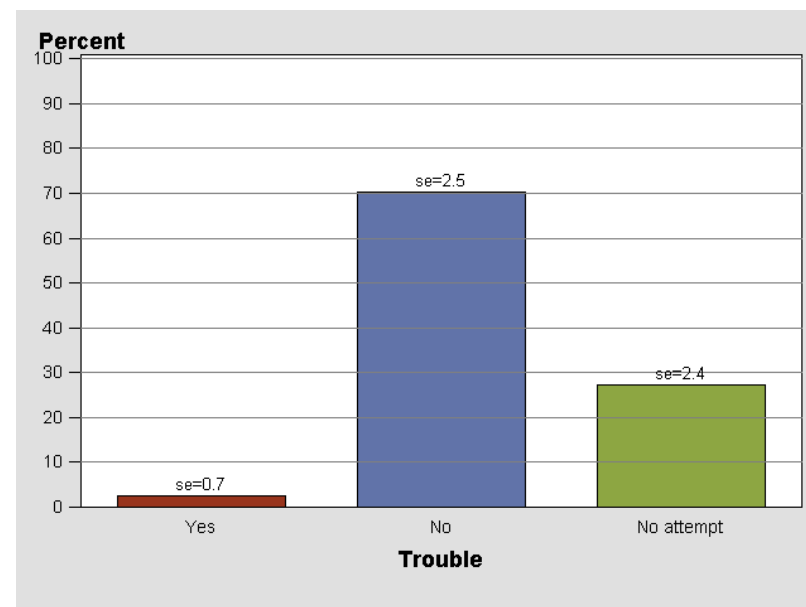




Table D-21. Could Not Find Working Pumpout or Toilet Dump  
This Season in NDZ (Q19)

Could Not Find	Number	Weighted Percent	Standard Error
Yes	57	7.2	1.0
No	794	92.8	1.0
Missing	23	.	.
Appropriate skip	84	.	.

Figure D-21. Could Not Find Working Pumpout or Toilet Dump  
This Season in NDZ (Q19)

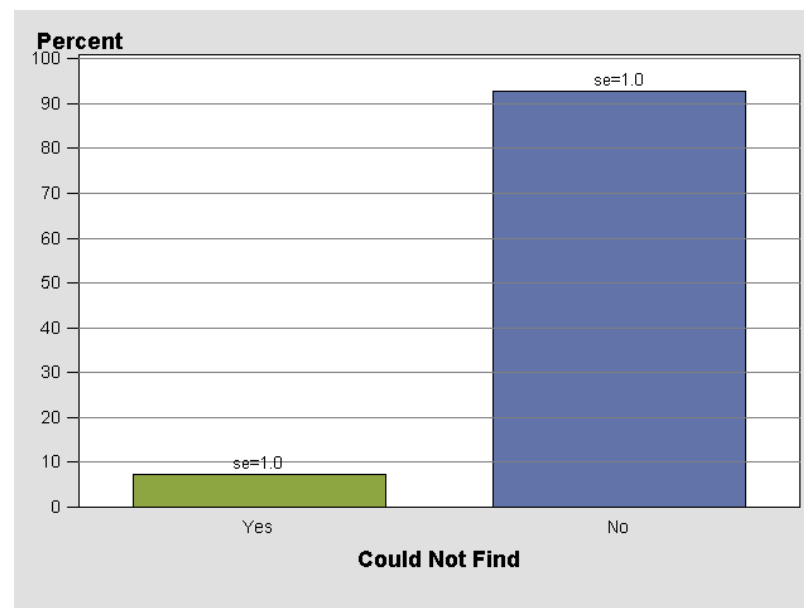


Table D-22. Discharged Sewage Outside the NDZ (Q20)

Discharged	Number	Weighted Percent	Standard Error
Yes	202	24.6	3.0
No	651	75.4	3.0
Missing	21	.	.
Appropriate skip	84	.	.

Figure D-22. Discharged Sewage Outside the NDZ (Q20)

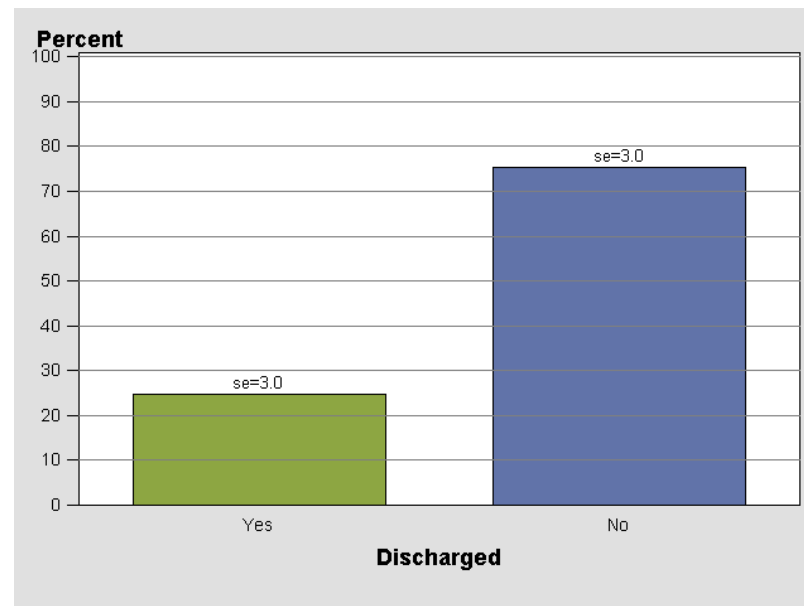


Table D-23. Number of Times Boater Discharged Sewage Outside the NDZ (Q20A)

Number of Times	Number	Weighted Percent	Standard Error
1	36	18.7	2.1
2	42	23.0	2.4
3-4	38	19.5	1.8
5-9	29	13.8	1.8
10-19	27	14.2	2.0
20+	25	10.8	1.9
Missing	25	.	.
Appropriate skip	84	.	.
Not applicable	652	.	.

Figure D-23. Number of Times Boater Discharged Sewage Outside the NDZ (Q20A)

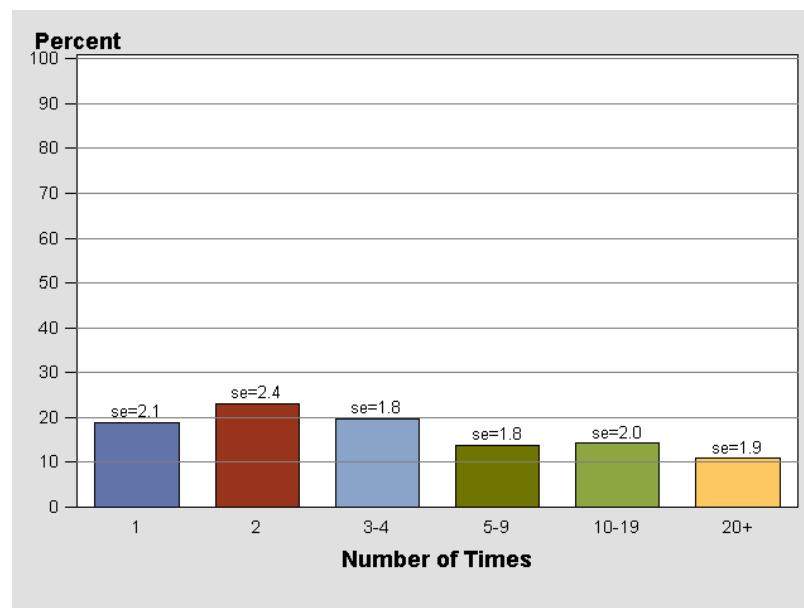
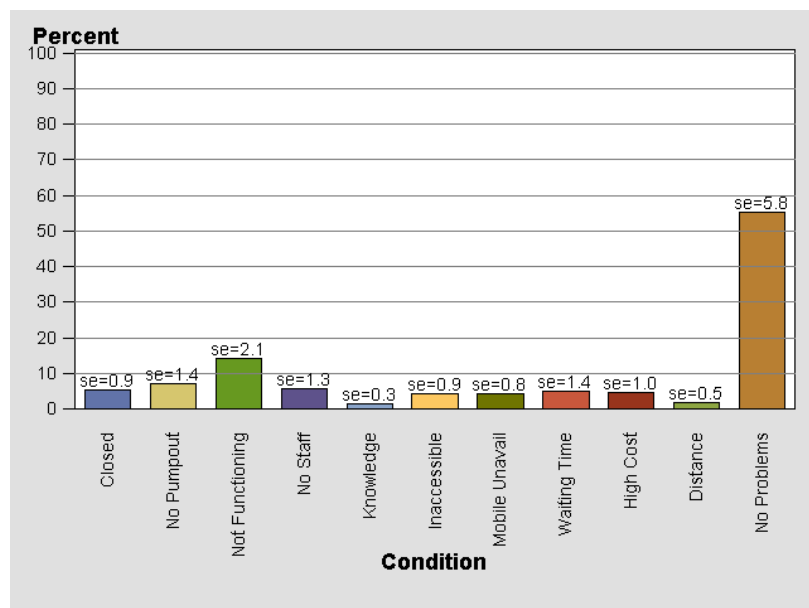


Table D-24. Conditions Found at Pumpout or Toilet Dump Facilities in the NDZ in 2003 (Q21)

Condition	Response	Number	Weighted Percent	Standard Error
Closed	Yes	38	5.3	0.9
Closed	No	660	94.7	0.9
Closed	Missing	176	.	.
Closed	Appropriate skip	84	.	.
No Pumpout	Yes	52	7.0	1.4
No Pumpout	No	651	93.0	1.4
No Pumpout	Missing	171	.	.
No Pumpout	Appropriate skip	84	.	.
Not Functioning	Yes	101	14.1	2.1
Not Functioning	No	603	85.9	2.1
Not Functioning	Missing	170	.	.
Not Functioning	Appropriate skip	84	.	.
No Staff	Yes	40	5.9	1.3
No Staff	No	657	94.1	1.3
No Staff	Missing	177	.	.
No Staff	Appropriate skip	84	.	.
Knowledge	Yes	10	1.3	0.3
Knowledge	No	682	98.7	0.3
Knowledge	Missing	182	.	.
Knowledge	Appropriate skip	84	.	.
Inaccessible	Yes	31	4.3	0.9
Inaccessible	No	665	95.7	0.9
Inaccessible	Missing	178	.	.
Inaccessible	Appropriate skip	84	.	.
Mobile Unavail	Yes	29	4.2	0.8
Mobile Unavail	No	662	95.8	0.8
Mobile Unavail	Missing	183	.	.
Mobile Unavail	Appropriate skip	84	.	.
Waiting Time	Yes	33	5.0	1.4
Waiting Time	No	660	95.0	1.4
Waiting Time	Missing	181	.	.
Waiting Time	Appropriate skip	84	.	.

High Cost	Yes	31	4.6	1.0
High Cost	No	666	95.4	1.0
High Cost	Missing	177	.	.
High Cost	Appropriate skip	84	.	.
Distance	Yes	13	2.0	0.5
Distance	No	674	98.0	0.5
Distance	Missing	187	.	.
Distance	Appropriate skip	84	.	.
No Problems	Yes	431	55.3	5.8
No Problems	No	303	44.7	5.8
No Problems	Missing	140	.	.
No Problems	Appropriate skip	84	.	.

Figure D-24. Conditions Found at Pumpout or Toilet Dump Facilities in the NDZ in 2003 (Q21)

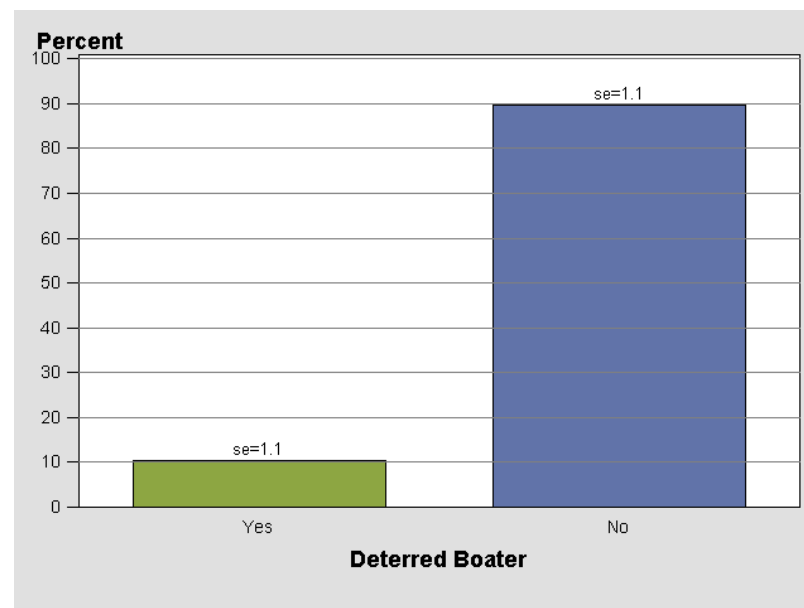


multiple response item - observations may be classified in more than one bar

Table D-25. Conditions or Problems in Q21 Deterred Boater from Using Facilities (Q22)

Deterred Boater	Number	Weighted Percent	Standard Error
Yes	78	10.4	1.1
No	667	89.6	1.1
Missing	97	.	.
Appropriate skip	116	.	.

Figure D-25. Conditions or Problems in Q21 Deterred Boater from Using Facilities (Q22)

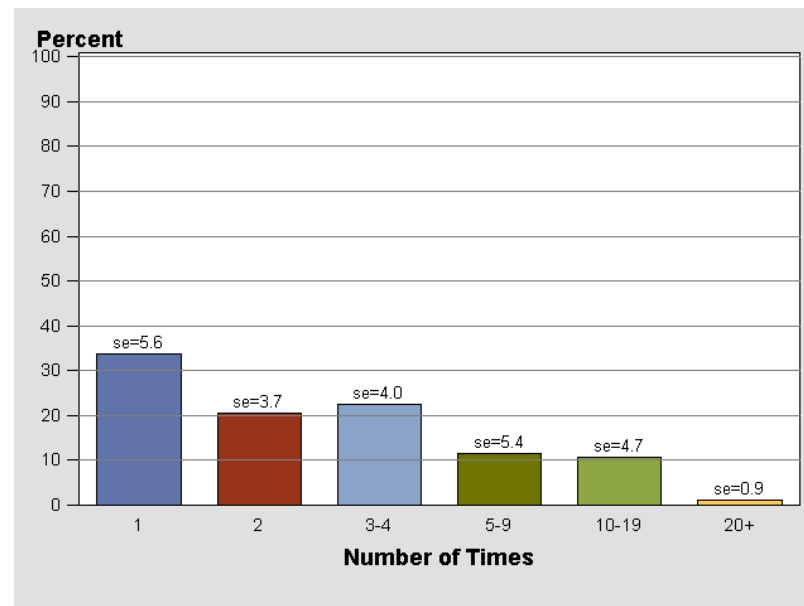


multiple response item - observations may be classified in more than one bar

Table D-26. Number of Times Conditions or Problems Deterred Boater from Using Facilities (Q22A)

Number of Times	Number	Weighted Percent	Standard Error
1	22	33.7	5.6
2	15	20.6	3.7
3-4	15	22.4	4.0
5-9	6	11.6	5.4
10-19	7	10.7	4.7
20+	1	1.1	0.9
Missing	109	.	.
Appropriate skip	116	.	.
Not applicable	667	.	.

Figure D-26. Number of Times Conditions or Problems Deterred Boater from Using Facilities (Q22A)



multiple response item - observations may be classified in more than one bar

Table D-27. Knowledge Whether or Not Designated Area is an NDZ (Q23)

Knowledge	Number	Weighted Percent	Standard Error
Yes	892	94.2	0.9
No	54	5.8	0.9
Missing	12	.	.

Figure D-27. Knowledge Whether or Not Designated Area is an NDZ (Q23)

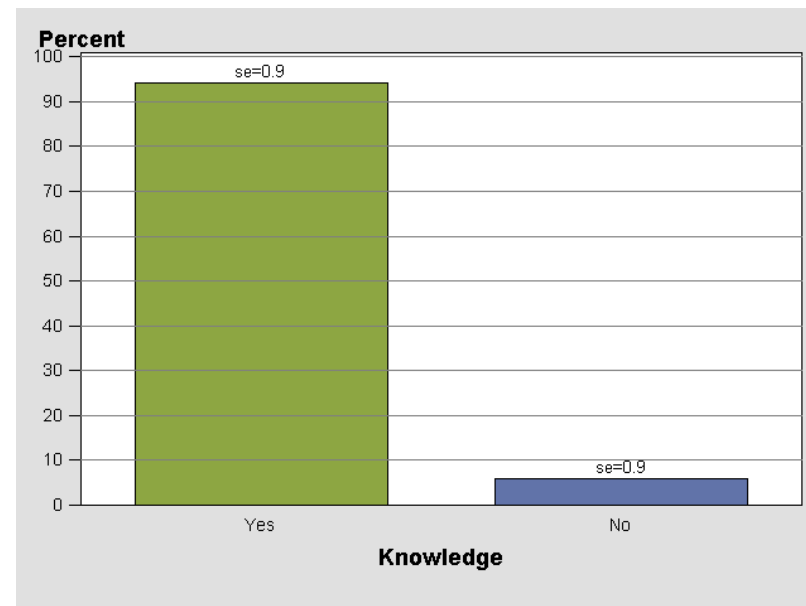




Table D-28. Knowledge that Discharge of Vessel Sewage is Prohibited in the NDZ (Q24)

Knowledge	Number	Weighted Percent	Standard Error
Yes	914	97.1	0.7
No	28	2.9	0.7
Missing	16	.	.

Figure D-28. Knowledge that Discharge of Vessel Sewage is Prohibited in the NDZ (Q24)

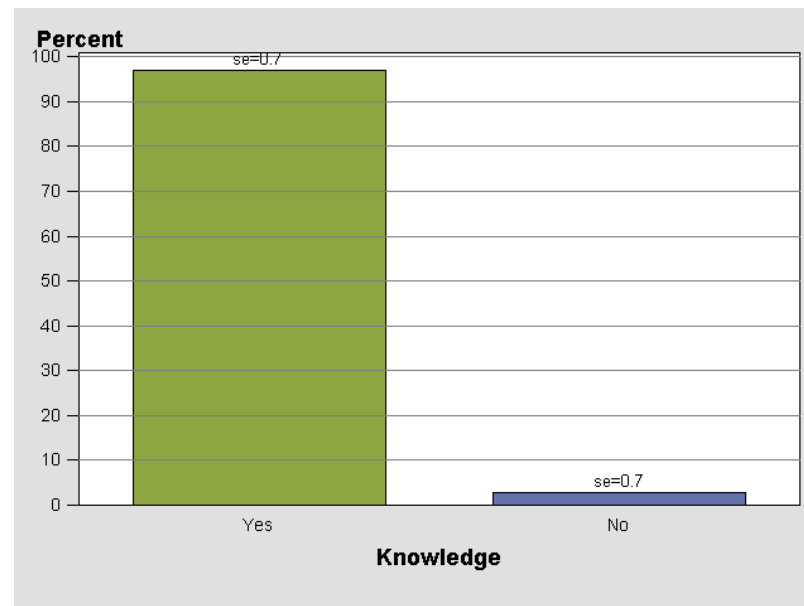


Table D-29. Source of Information about NDZ (Q25)

Source	Response	Number	Weighted Percent	Standard Error
TV	Yes	105	16.9	3.0
TV	No	591	83.1	3.0
TV	Missing	262	.	.
Radio	Yes	80	13.0	2.3
Radio	No	611	87.0	2.3
Radio	Missing	267	.	.
Boat Show	Yes	233	33.2	3.5
Boat Show	No	475	66.8	3.5
Boat Show	Missing	250	.	.
Marina Signs	Yes	364	51.1	6.2
Marina Signs	No	382	48.9	6.2
Marina Signs	Missing	212	.	.
Marina Brochures	Yes	237	35.1	6.3
Marina Brochures	No	499	64.9	6.3
Marina Brochures	Missing	222	.	.
Marina Verbal	Yes	243	34.6	5.7
Marina Verbal	No	487	65.4	5.7
Marina Verbal	Missing	228	.	.
Signs Elsewhere	Yes	292	41.8	5.1
Signs Elsewhere	No	442	58.2	5.1
Signs Elsewhere	Missing	224	.	.
Brochures Elsewhere	Yes	273	39.7	4.0
Brochures Elsewhere	No	443	60.3	4.0
Brochures Elsewhere	Missing	242	.	.
Verbal Elsewhere	Yes	266	37.8	4.1
Verbal Elsewhere	No	466	62.2	4.1
Verbal Elsewhere	Missing	226	.	.
Boater Told	Yes	63	10.5	3.0
Boater Told	No	637	89.5	3.0
Boater Told	Missing	258	.	.
Survey	Yes	77	11.7	2.0
Survey	No	631	88.3	2.0
Survey	Missing	250	.	.

Maps	Yes	303	39.9	5.5
Maps	No	509	60.1	5.5
Maps	Missing	146	.	.
Other	Yes	330	34.4	3.7
Other	No	628	65.6	3.7

Figure D-29. Source of Information about NDZ (Q25)

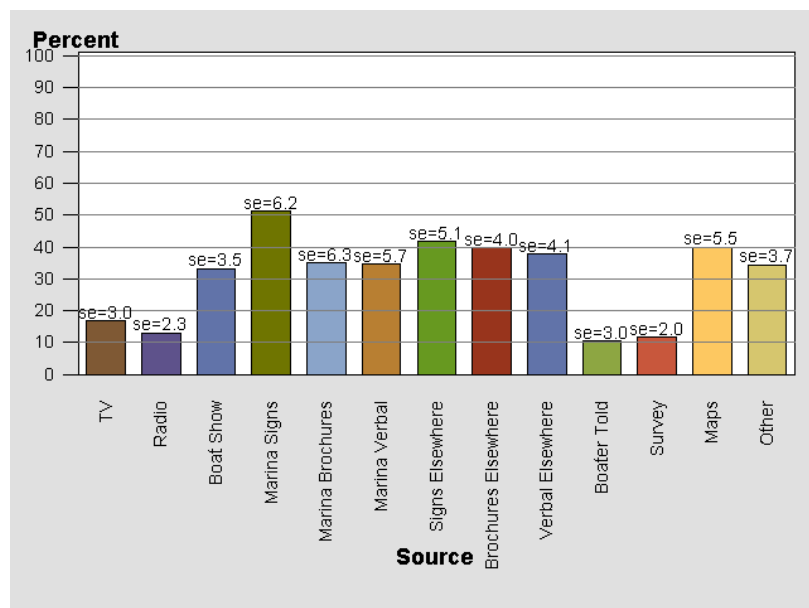


Table D-30. Organization that Boater Believes has Responsibility to Enforce NDZ (Q26)

Organization	Response	Number	Weighted Percent	Standard Error
USCG	Yes	592	66.2	3.2
USCG	No	143	15.0	2.8
USCG	Do Not Know	172	18.8	1.6
USCG	Missing	51	.	.
State	Yes	401	48.6	3.2
State	No	206	23.5	3.1
State	Do Not Know	242	27.8	1.7
State	Missing	109	.	.
Local Govt	Yes	258	33.6	3.4
Local Govt	No	281	33.3	3.5
Local Govt	Do Not Know	276	33.1	2.3
Local Govt	Missing	143	.	.
Harbormaster	Yes	435	51.5	3.7
Harbormaster	No	198	23.4	3.0
Harbormaster	Do Not Know	213	25.1	2.1
Harbormaster	Missing	112	.	.
Marina	Yes	268	34.2	4.1
Marina	No	296	34.8	3.9
Marina	Do Not Know	260	31.0	2.0
Marina	Missing	134	.	.
EPA	Yes	332	40.6	2.8
EPA	No	230	27.7	2.8
EPA	Do Not Know	265	31.7	2.1
EPA	Missing	131	.	.

Figure D-30. Organization that Boater Believes has Responsibility to Enforce NDZ (Q26)

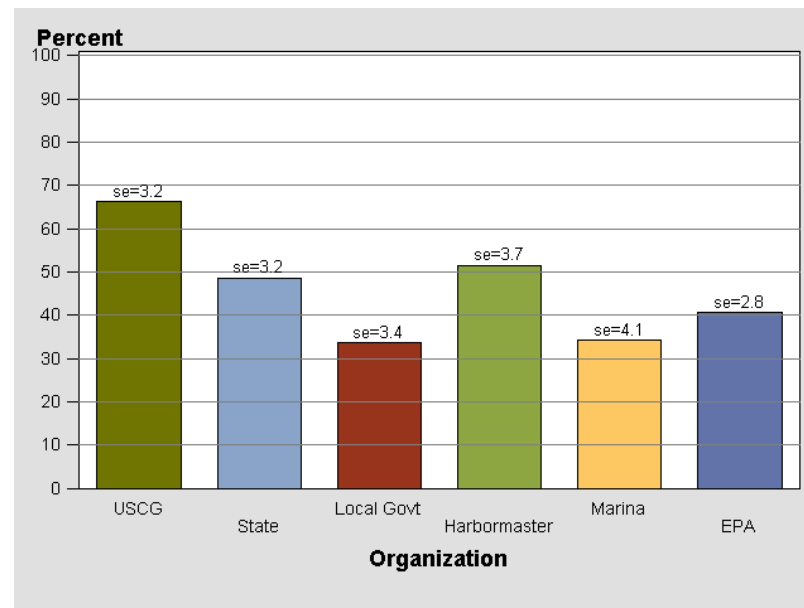


Table D-31. Aware of Anyone Receiving Citation for Discharging Sewage in NDZ (Q27)

Aware	Number	Weighted Percent	Standard Error
Yes	49	5.4	0.8
No	901	94.6	0.8
Missing	8	.	.

Figure D-31. Aware of Anyone Receiving Citation for Discharging Sewage in NDZ (Q27)

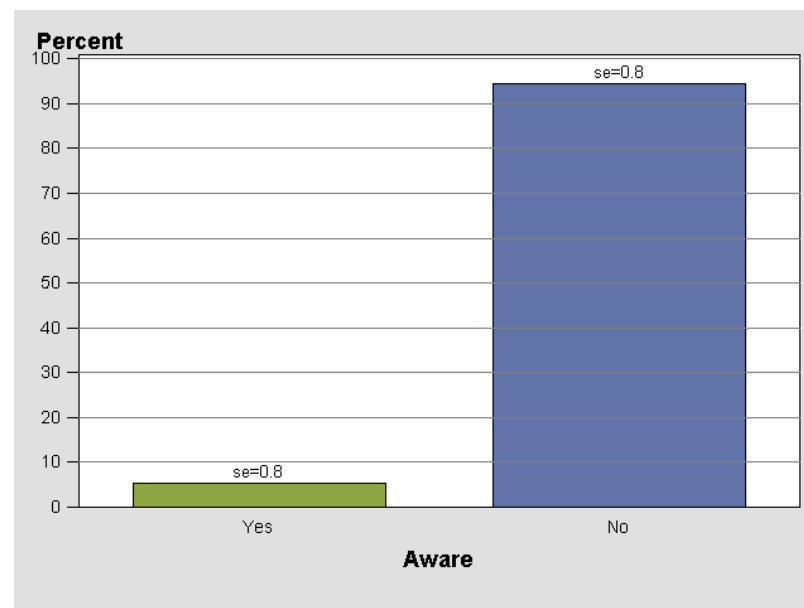
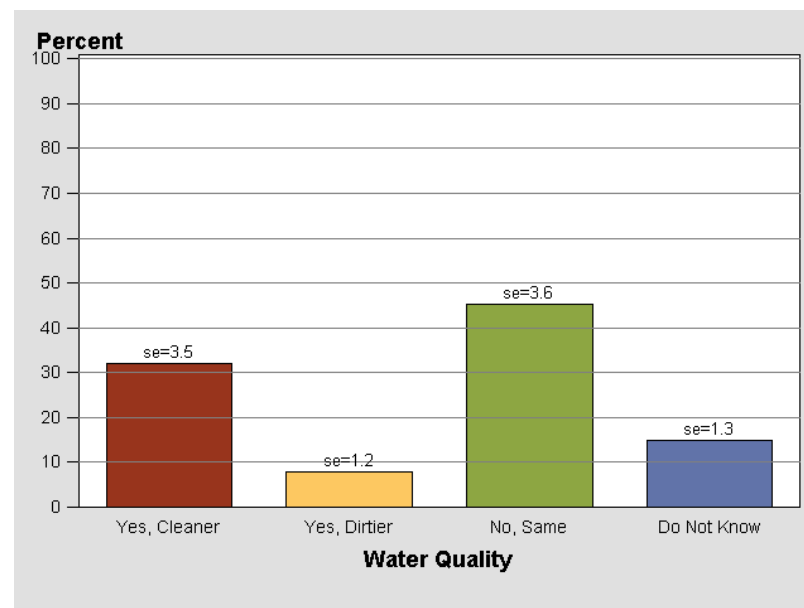


Table D-32. Notice of the Change in the Water Quality Since Area was Designated NDZ (Q28)

Water Quality	Number	Weighted Percent	Standard Error
Yes, Cleaner	277	32.0	3.5
Yes, Dirtier	78	7.9	1.2
No, Same	440	45.2	3.6
Do Not Know	147	14.9	1.3
Missing	16	.	.

Figure D-32. Notice of the Change in the Water Quality Since Area was Designated NDZ (Q28)



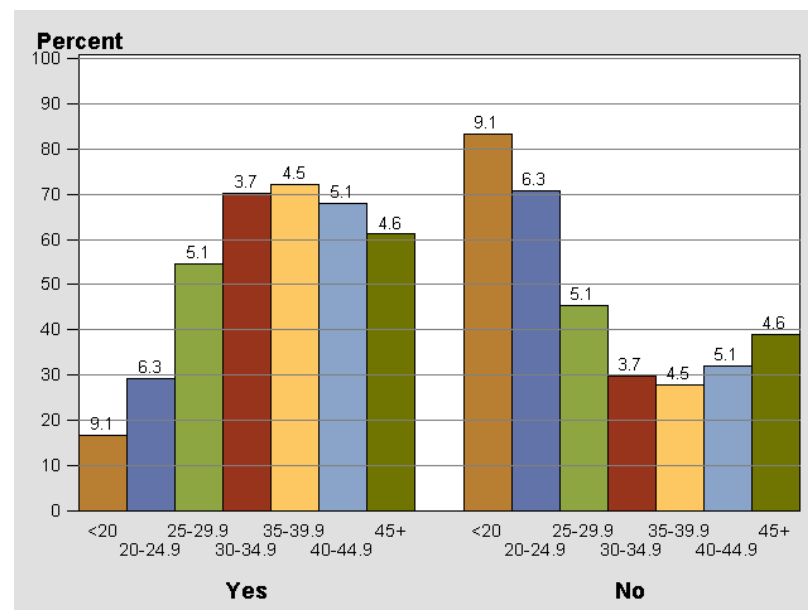
## **APPENDIX D-2**

### **Boater Survey Results for Selected Combinations of Survey Questions**

Table D-33. Length of Boat (feet) by Whether Pumpout Facility Was Used (Q2 by Q16)

Length of Boat (feet)	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
<20	Yes	3	16.6	9.1
<20	No	17	83.4	9.1
<20	Appropriate skip	37	.	.
20-24.9	Yes	22	29.1	6.3
20-24.9	No	56	70.9	6.3
20-24.9	Missing	8	.	.
20-24.9	Appropriate skip	27	.	.
25-29.9	Yes	114	54.6	5.1
25-29.9	No	91	45.4	5.1
25-29.9	Missing	4	.	.
25-29.9	Appropriate skip	10	.	.
30-34.9	Yes	155	70.2	3.7
30-34.9	No	61	29.8	3.7
30-34.9	Missing	1	.	.
30-34.9	Appropriate skip	2	.	.
35-39.9	Yes	100	72.2	4.5
35-39.9	No	39	27.8	4.5
35-39.9	Missing	1	.	.
35-39.9	Appropriate skip	2	.	.
40-44.9	Yes	70	68.0	5.1
40-44.9	No	32	32.0	5.1
40-44.9	Appropriate skip	5	.	.
45+	Yes	59	61.2	4.6
45+	No	39	38.8	4.6
45+	Appropriate skip	1	.	.
Missing	Yes	1	.	.
Missing	No	1	.	.

Figure D-33. Length of Boat (feet) by Whether Pumpout Facility Was Used (Q2 by Q16)



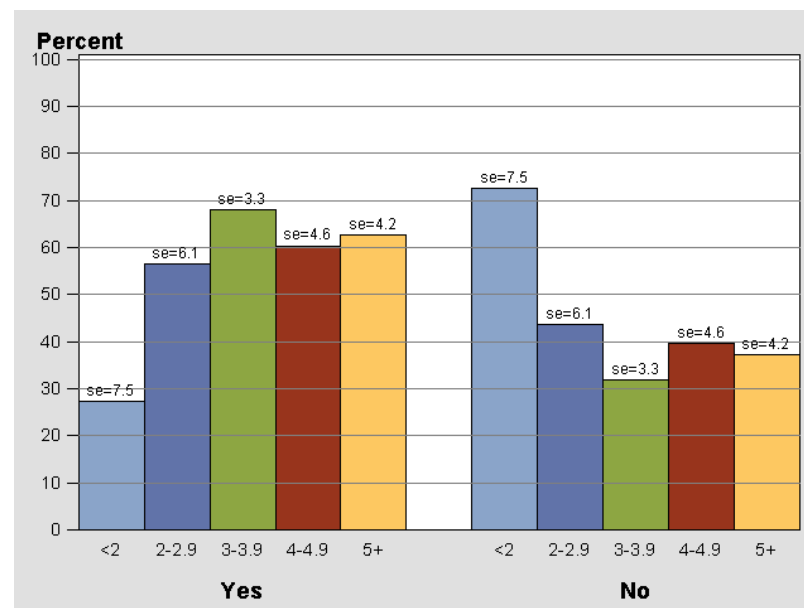
Length of Boat (feet)



Table D-34. Draft of Boat (feet) by Whether Pumpout Facility Was Used (Q3 by Q16)

Draft of Boat (feet)	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
<2	Yes	17	27.4	7.5
<2	No	39	72.6	7.5
<2	Missing	4	.	.
<2	Appropriate skip	29	.	.
2-2.9	Yes	91	56.4	6.1
2-2.9	No	65	43.6	6.1
2-2.9	Missing	4	.	.
2-2.9	Appropriate skip	22	.	.
3-3.9	Yes	219	68.1	3.3
3-3.9	No	103	31.9	3.3
3-3.9	Missing	4	.	.
3-3.9	Appropriate skip	11	.	.
4-4.9	Yes	97	60.4	4.6
4-4.9	No	61	39.6	4.6
4-4.9	Missing	1	.	.
4-4.9	Appropriate skip	4	.	.
5+	Yes	88	62.7	4.2
5+	No	55	37.3	4.2
5+	Missing	1	.	.
5+	Appropriate skip	7	.	.
Missing	Yes	12	.	.
Missing	No	13	.	.
Missing	Appropriate skip	11	.	.

Figure D-34. Draft of Boat (feet) by Whether Pumpout Facility Was Used (Q3 by Q16)

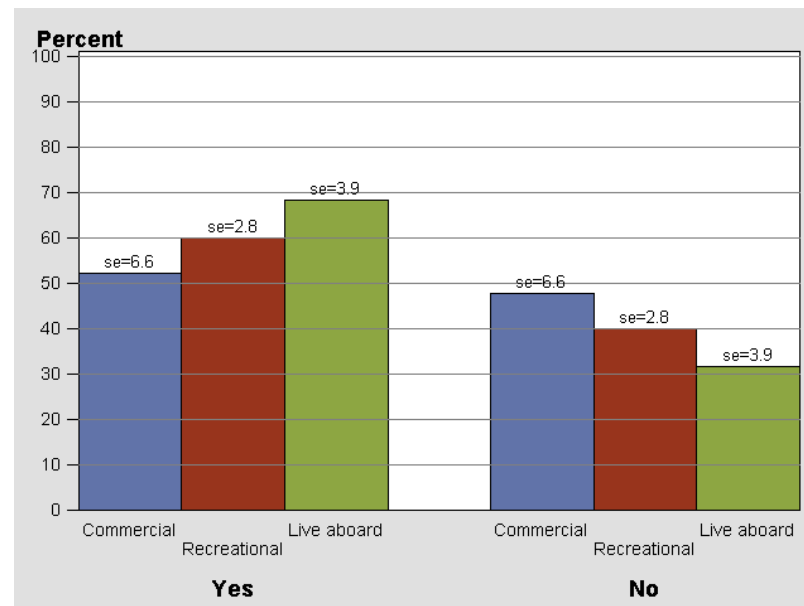


Draft of Boat (feet)

Table D-35. Function of Boat by Whether Pumpout Facility Was Used (Q4 by Q16)

Function of Boat	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
Commercial	Yes	18	52.3	6.6
Commercial	No	17	47.7	6.6
Commercial	Appropriate skip	16	.	.
Recreational	Yes	474	60.1	2.8
Recreational	No	309	39.9	2.8
Recreational	Missing	14	.	.
Recreational	Appropriate skip	69	.	.
Live aboard	Yes	86	68.4	3.9
Live aboard	No	37	31.6	3.9
Live aboard	Appropriate skip	1	.	.
Missing	Yes	1	.	.
Missing	No	2	.	.

Figure D-35. Function of Boat by Whether Pumpout Facility Was Used (Q4 by Q16)



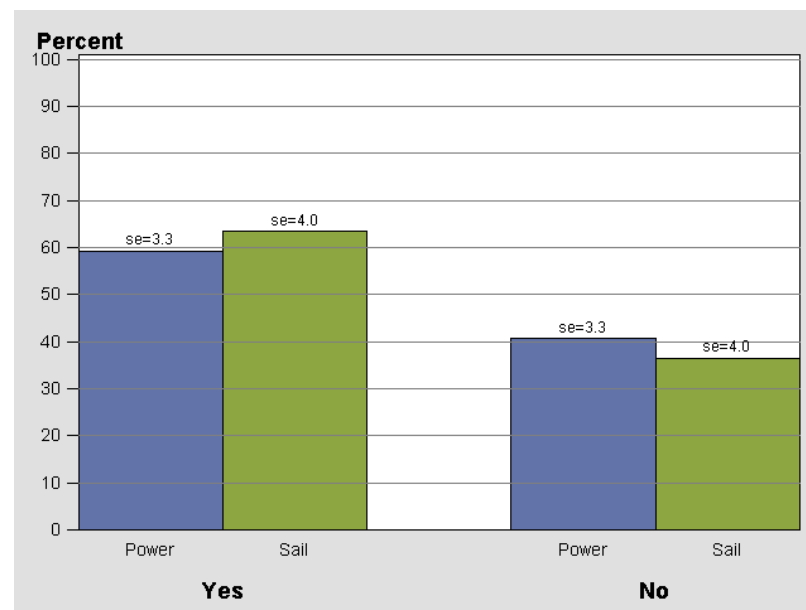
Function of Boat

multiple response item - observations may be classified in more than one bar

Table D-36. Type of Boat by Whether Pumpout Facility Was Used (Q5 by Q16)

Type of Boat	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
Power	Yes	409	59.3	3.3
Power	No	269	40.7	3.3
Power	Missing	8	.	.
Power	Appropriate skip	78	.	.
Sail	Yes	116	63.5	4.0
Sail	No	71	36.5	4.0
Sail	Missing	6	.	.
Sail	Appropriate skip	5	.	.
Missing	Yes	3	.	.
Missing	No	2	.	.
Missing	Appropriate skip	1	.	.

Figure D-36. Type of Boat by Whether Pumpout Facility Was Used (Q5 by Q16)



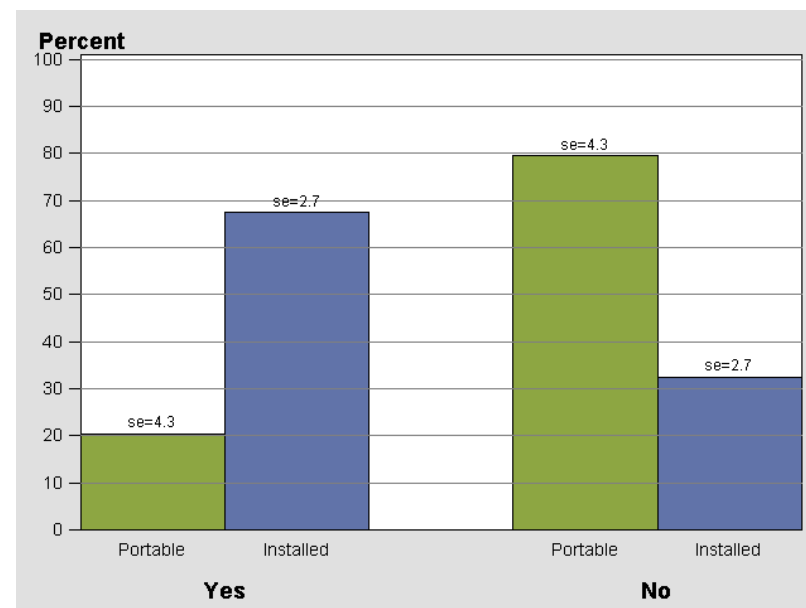
Type of Boat

multiple response item - observations may be classified in more than one bar

Table D-37. Type of Toilet Operated by Whether Pumpout Facility Was Used (Q6 by Q16)

Type of Toilet Operated	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
Portable	Yes	28	20.4	4.3
Portable	No	100	79.6	4.3
Portable	Missing	8	.	.
Installed	Yes	501	67.5	2.7
Installed	No	239	32.5	2.7
Installed	Missing	6	.	.
Missing	No	3	.	.
Missing	Appropriate skip	84	.	.

Figure D-37. Type of Toilet Operated by Whether Pumpout Facility Was Used (Q6 by Q16)



Type of Toilet Operated

multiple response item - observations may be classified in more than one bar

Table D-38. Source of Training by Whether Pumpout Facility Was Used (Q9 by Q16)

Source of Training	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
Dealer	Yes	123	67.4	4.5
Dealer	No	53	32.6	4.5
Manufacturer	Yes	21	70.0	7.0
Manufacturer	No	10	30.0	7.0
Marina	Yes	18	71.1	8.7
Marina	No	5	28.9	8.7
Marina	Missing	1	.	.
Manual	Yes	210	71.5	3.2
Manual	No	86	28.5	3.2
Manual	Missing	3	.	.
Other	Yes	162	61.7	3.4
Other	No	98	38.3	3.4
Other	Missing	1	.	.
No training	Yes	23	73.2	9.2
No training	No	10	26.8	9.2
Missing	Yes	5	.	.
Missing	No	2	.	.
Missing	Missing	1	.	.
Appropriate skip	Yes	23	.	.
Appropriate skip	No	94	.	.
Appropriate skip	Missing	8	.	.
Appropriate skip	Appropriate skip	83	.	.

Figure D-38. Source of Training by Whether Pumpout Facility Was Used (Q9 by Q16)

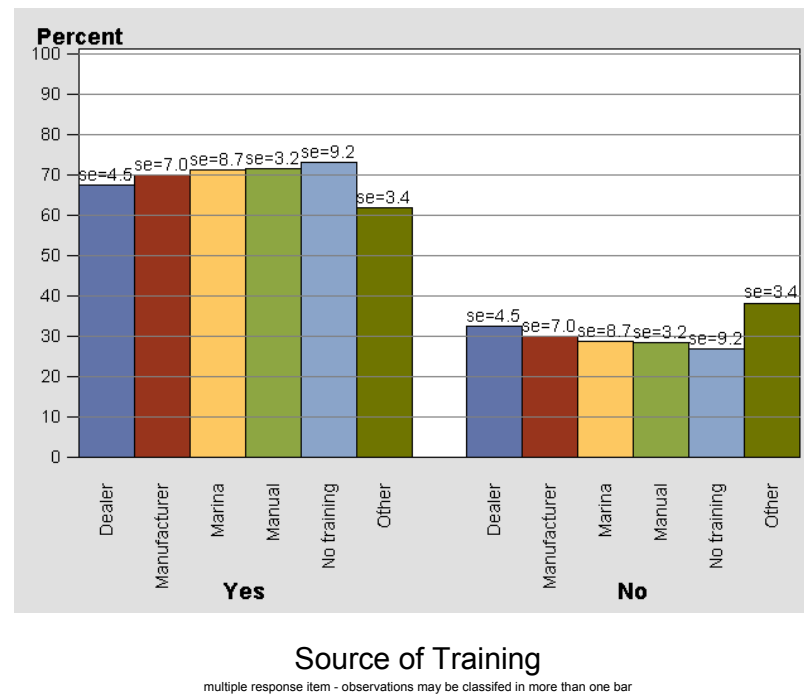
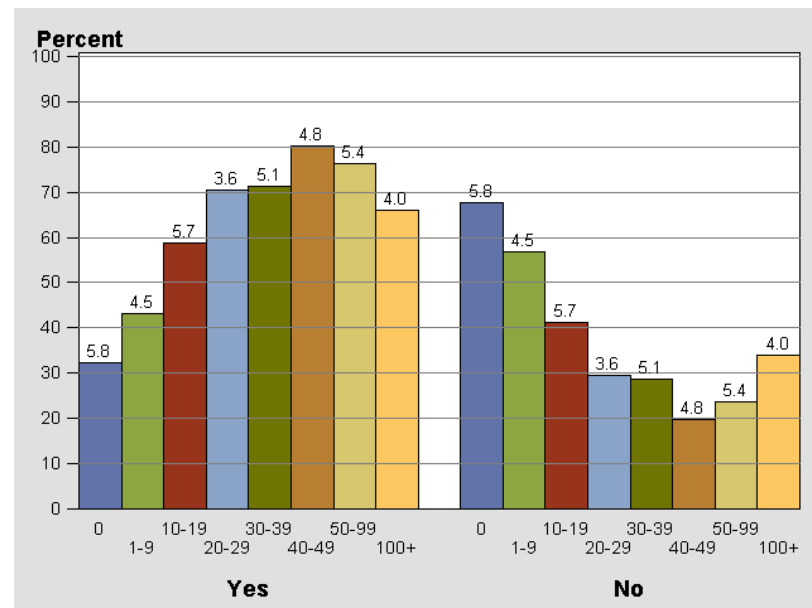


Table D-39. Frequency of Boating in NDZ (days) by Whether Pumpout Facility Was Used (Q13 by Q16)

Frequency of Boating in NDZ (days)	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
0	Yes	20	32.4	5.8
0	No	40	67.6	5.8
1-9	Yes	73	43.2	4.5
1-9	No	103	56.8	4.5
1-9	Missing	2	.	.
10-19	Yes	84	58.7	5.7
10-19	No	56	41.3	5.7
10-19	Missing	3	.	.
20-29	Yes	110	70.5	3.6
20-29	No	46	29.5	3.6
20-29	Missing	2	.	.
30-39	Yes	69	71.5	5.1
30-39	No	26	28.5	5.1
30-39	Missing	2	.	.
40-49	Yes	40	80.2	4.8
40-49	No	10	19.8	4.8
50-99	Yes	69	76.5	5.4
50-99	No	21	23.5	5.4
50-99	Missing	1	.	.
100+	Yes	50	66.1	4.0
100+	No	24	33.9	4.0
100+	Missing	1	.	.
Missing	Yes	9	.	.
Missing	No	10	.	.
Missing	Missing	3	.	.
Appropriate skip	Appropriate skip	84	.	.

Figure D-39. Frequency of Boating in NDZ (days) by Whether Pumpout Facility Was Used (Q13 by Q16)

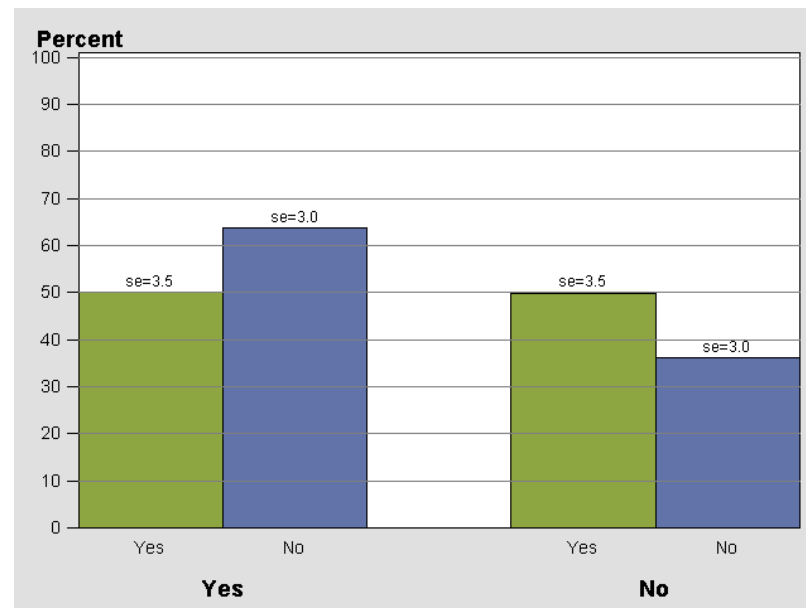


Frequency of Boating in NDZ (days)

Table D-40. Whether Boater Discharged Sewage Outside NDZ by Whether Pumpout Facility Was Used (Q20 by Q16)

Whether Boater Discharged Sewage Outside NDZ	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
Yes	Yes	101	50.1	3.5
Yes	No	99	49.9	3.5
Yes	Missing	2	.	.
No	Yes	418	63.8	3.0
No	No	231	36.2	3.0
No	Missing	2	.	.
Missing	Yes	5	.	.
Missing	No	6	.	.
Missing	Missing	10	.	.
Appropriate skip	Appropriate skip	84	.	.

Figure D-40. Whether Boater Discharged Sewage Outside NDZ by Whether Pumpout Facility Was Used (Q20 by Q16)

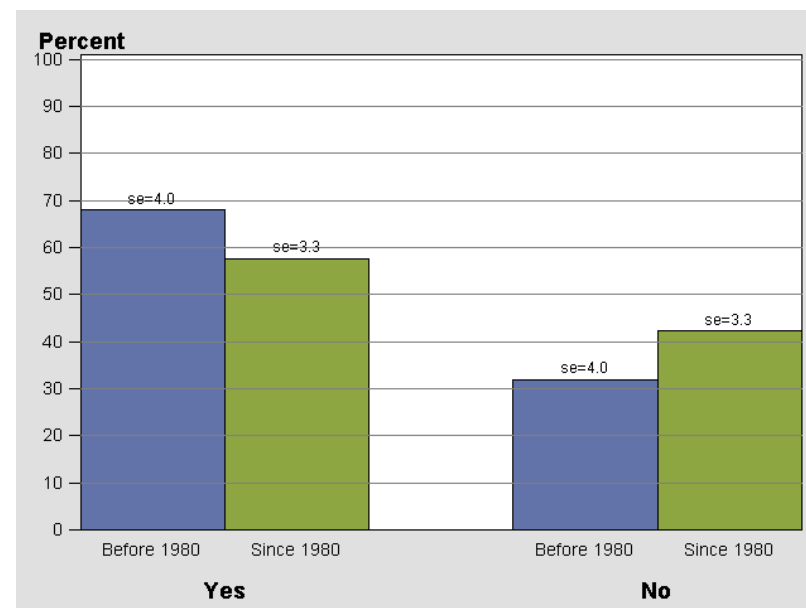


Whether Boater Discharged Sewage Outside NDZ

Table D-41. NDZ Year of Origination by Whether Pumpout Facility Was Used (NDZ Age by Q16)

NDZ Year of Origination	Whether Pumpout Facility Was Used	Number	Weighted Percent	Standard Error
Before 1980	Yes	159	68.0	4.0
Before 1980	No	71	32.0	4.0
Before 1980	Missing	1	.	.
Before 1980	Appropriate skip	12	.	.
Since 1980	Yes	365	57.7	3.3
Since 1980	No	265	42.3	3.3
Since 1980	Missing	13	.	.
Since 1980	Appropriate skip	72	.	.

Figure D-41. NDZ Year of Origination by Whether Pumpout Facility Was Used (NDZ Age by Q16)



NDZ Year of Origination

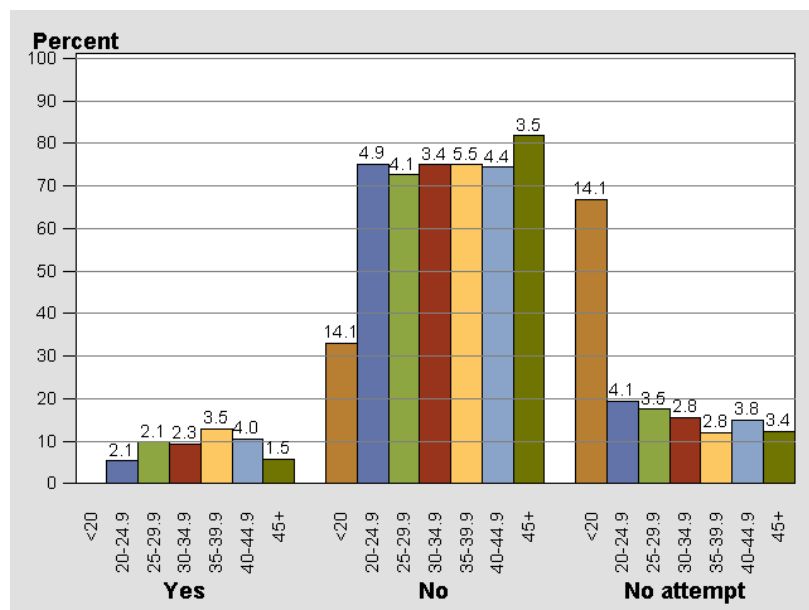


Table D-42. Length of Boat (feet) by Whether Boater had Problems (Q2 by Q17)

Length of Boat (feet)	Whether Boater had Problems	Number	Weighted Percent	Standard Error
<20	Yes	0	0.0	0.0
<20	No	5	33.1	14.1
<20	No attempt	15	66.9	14.1
<20	Appropriate skip	37	.	.
20-24.9	Yes	5	5.4	2.1
20-24.9	No	58	75.1	4.9
20-24.9	No attempt	14	19.4	4.1
20-24.9	Missing	9	.	.
20-24.9	Appropriate skip	27	.	.
25-29.9	Yes	20	9.8	2.1
25-29.9	No	150	72.7	4.1
25-29.9	No attempt	34	17.5	3.5
25-29.9	Missing	5	.	.
25-29.9	Appropriate skip	10	.	.
30-34.9	Yes	20	9.4	2.3
30-34.9	No	157	75.0	3.4
30-34.9	No attempt	34	15.6	2.8
30-34.9	Missing	5	.	.
30-34.9	Appropriate skip	3	.	.
35-39.9	Yes	17	12.9	3.5
35-39.9	No	105	75.0	5.5
35-39.9	No attempt	17	12.1	2.8
35-39.9	Missing	1	.	.
35-39.9	Appropriate skip	2	.	.
40-44.9	Yes	10	10.5	4.0
40-44.9	No	77	74.5	4.4
40-44.9	No attempt	15	15.0	3.8
40-44.9	Appropriate skip	5	.	.
45+	Yes	7	5.8	1.5
45+	No	78	81.8	3.5
45+	No attempt	12	12.3	3.4
45+	Missing	1	.	.

45+	Appropriate skip	1	.	.
Missing	No	2	.	.

Figure D-42. Length of Boat (feet) by Whether Boater had Problems (Q2 by Q17)

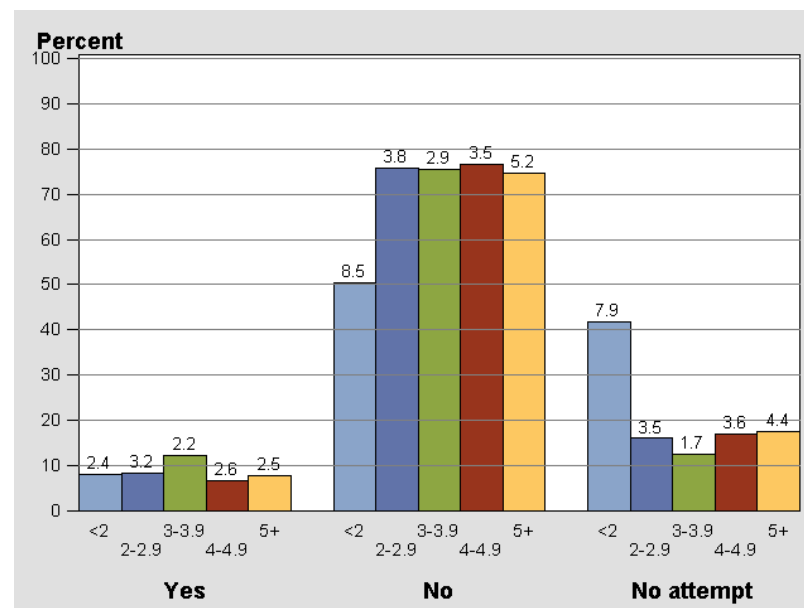


Length of Boat (feet)

Table D-43. Draft of Boat (feet) by Whether Boater Had Problems (Q3 by Q17)

Draft of Boat (feet)	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
<2	Yes	5	8.0	2.4
<2	No	28	50.3	8.5
<2	No attempt	22	41.6	7.9
<2	Missing	5	.	.
<2	Appropriate skip	29	.	.
2-2.9	Yes	14	8.3	3.2
2-2.9	No	117	75.7	3.8
2-2.9	No attempt	25	15.9	3.5
2-2.9	Missing	4	.	.
2-2.9	Appropriate skip	22	.	.
3-3.9	Yes	40	12.1	2.2
3-3.9	No	238	75.5	2.9
3-3.9	No attempt	41	12.4	1.7
3-3.9	Missing	7	.	.
3-3.9	Appropriate skip	11	.	.
4-4.9	Yes	9	6.5	2.6
4-4.9	No	122	76.7	3.5
4-4.9	No attempt	26	16.8	3.6
4-4.9	Missing	2	.	.
4-4.9	Appropriate skip	4	.	.
5+	Yes	10	7.8	2.5
5+	No	106	74.6	5.2
5+	No attempt	24	17.5	4.4
5+	Missing	3	.	.
5+	Appropriate skip	8	.	.
Missing	Yes	1	.	.
Missing	No	21	.	.
Missing	No attempt	3	.	.
Missing	Appropriate skip	11	.	.

Figure D-43. Draft of Boat (feet) by Whether Boater Had Problems (Q3 by Q17)

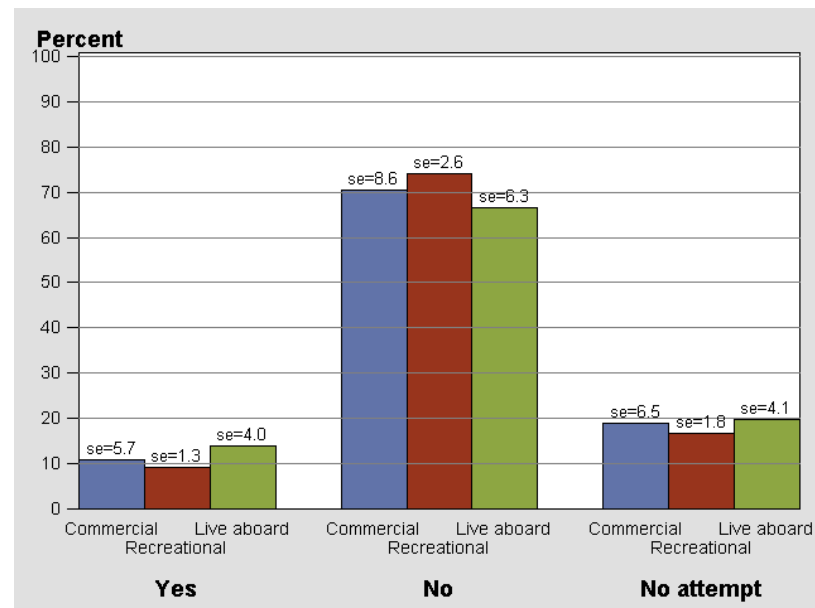


Draft of Boat (feet)

Table D-44. Function of Boat by Whether Boater Had Problems (Q4 by Q17)

Function of Boat	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
Commercial	Yes	4	10.7	5.7
Commercial	No	25	70.6	8.6
Commercial	No attempt	6	18.7	6.5
Commercial	Appropriate skip	16	.	.
Recreational	Yes	71	9.1	1.3
Recreational	No	573	74.2	2.6
Recreational	No attempt	131	16.8	1.8
Recreational	Missing	21	.	.
Recreational	Appropriate skip	70	.	.
Live aboard	Yes	17	13.8	4.0
Live aboard	No	84	66.5	6.3
Live aboard	No attempt	21	19.7	4.1
Live aboard	Missing	1	.	.
Live aboard	Appropriate skip	1	.	.
Missing	No	3	.	.

Figure D-44. Function of Boat by Whether Boater Had Problems (Q4 by Q17)



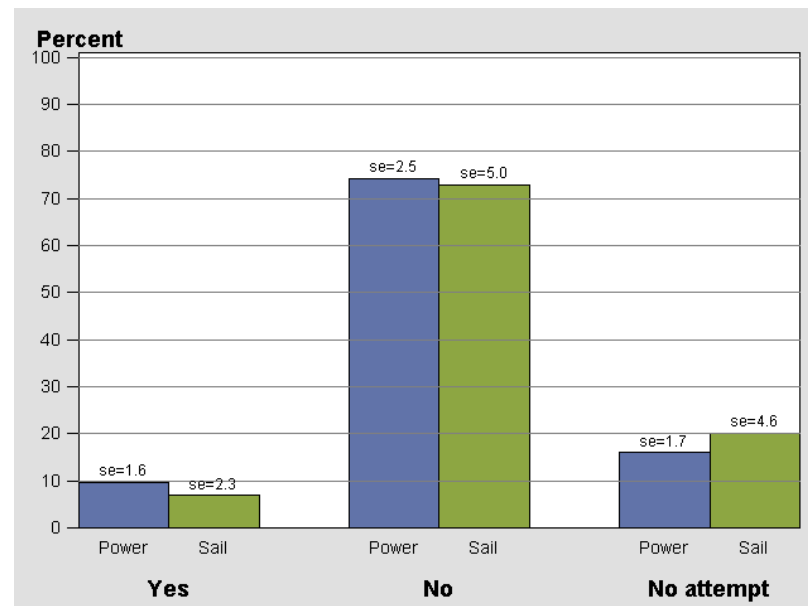
Function of Boat

multiple response item - observations may be classified in more than one bar

Table D-45. Type of Boat by Whether Boater Had Problems  
(Q5 by Q17)

Type of Boat	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
Power	Yes	68	9.7	1.6
Power	No	498	74.3	2.5
Power	No attempt	106	16.0	1.7
Power	Missing	14	.	.
Power	Appropriate skip	78	.	.
Sail	Yes	11	6.9	2.3
Sail	No	136	73.0	5.0
Sail	No attempt	38	20.2	4.6
Sail	Missing	7	.	.
Sail	Appropriate skip	6	.	.
Missing	No	5	.	.
Missing	Appropriate skip	1	.	.

Figure D-45. Type of Boat by Whether Boater Had Problems  
(Q5 by Q17)



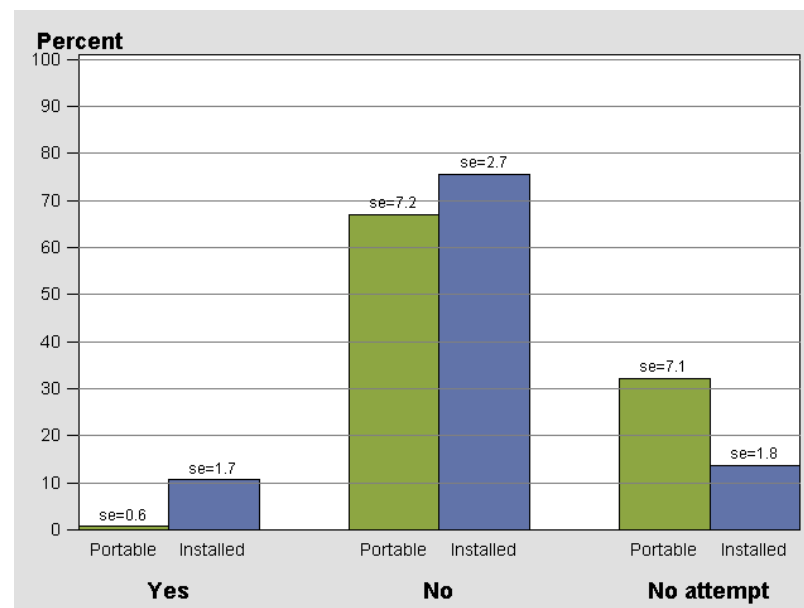
Type of Boat

multiple response item - observations may be classified in more than one bar

Table D-46. Type of Toilet Operated by Whether Boater Had Problems (Q6 by Q17)

Type of Toilet Operated	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
Portable	Yes	1	0.7	0.6
Portable	No	87	67.1	7.2
Portable	No attempt	40	32.2	7.1
Portable	Missing	8	.	.
Installed	Yes	78	10.6	1.7
Installed	No	552	75.6	2.7
Installed	No attempt	102	13.8	1.8
Installed	Missing	13	.	.
Installed	Appropriate skip	1	.	.
Missing	No	2	.	.
Missing	No attempt	1	.	.
Missing	Appropriate skip	84	.	.

Figure D-46. Type of Toilet Operated by Whether Boater Had Problems (Q6 by Q17)



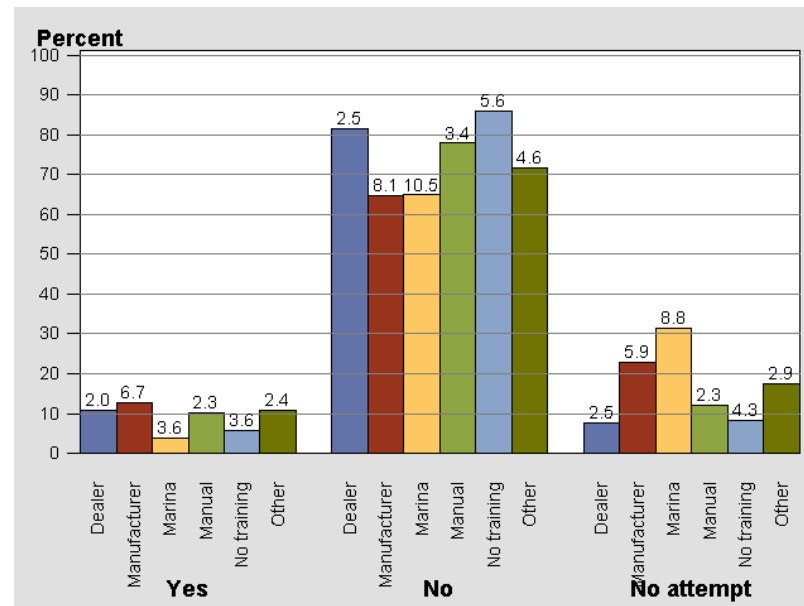
Type of Toilet Operated

multiple response item - observations may be classified in more than one bar

Table D-47. Source of Training by Whether Boater Had Problems (Q9 by Q17)

Source of Training	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
Dealer	Yes	20	10.8	2.0
Dealer	No	142	81.4	2.5
Dealer	No attempt	13	7.8	2.5
Dealer	Missing	1	.	.
Manufacturer	Yes	4	12.7	6.7
Manufacturer	No	19	64.6	8.1
Manufacturer	No attempt	8	22.8	5.9
Marina	Yes	1	3.8	3.6
Marina	No	16	64.8	10.5
Marina	No attempt	6	31.3	8.8
Marina	Missing	1	.	.
Manual	Yes	30	10.1	2.3
Manual	No	225	77.8	3.4
Manual	No attempt	36	12.1	2.3
Manual	Missing	7	.	.
Manual	Appropriate skip	1	.	.
Other	Yes	26	10.8	2.4
Other	No	186	71.7	4.6
Other	No attempt	44	17.5	2.9
Other	Missing	5	.	.
No training	Yes	2	5.8	3.6
No training	No	28	85.8	5.6
No training	No attempt	3	8.3	4.3
Missing	No	5	.	.
Missing	No attempt	2	.	.
Missing	Missing	1	.	.
Appropriate skip	Yes	1	.	.
Appropriate skip	No	78	.	.
Appropriate skip	No attempt	38	.	.
Appropriate skip	Missing	8	.	.
Appropriate skip	Appropriate skip	83	.	.

Figure D-47. Source of Training by Whether Boater Had Problems (Q9 by Q17)



Source of Training

multiple response item - observations may be classified in more than one bar

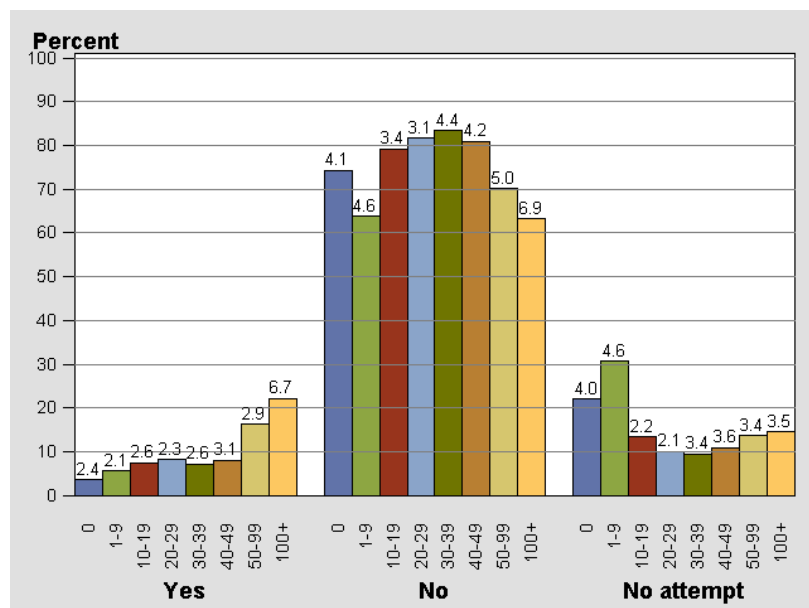
Table D-48. Frequency of Boating in NDZ (days) by Whether Boater Had Problems (Q13 by Q17)

Frequency of Boating in NDZ (days)	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
0	Yes	3	3.6	2.4
0	No	45	74.4	4.1
0	No attempt	12	22.0	4.0
1-9	Yes	10	5.5	2.1
1-9	No	106	63.8	4.6
1-9	No attempt	56	30.6	4.6
1-9	Missing	6	.	.
10-19	Yes	11	7.5	2.6
10-19	No	108	79.1	3.4
10-19	No attempt	18	13.4	2.2
10-19	Missing	6	.	.
20-29	Yes	12	8.2	2.3
20-29	No	127	81.7	3.1
20-29	No attempt	16	10.1	2.1
20-29	Missing	2	.	.
20-29	Appropriate skip	1	.	.
30-39	Yes	7	7.2	2.6
30-39	No	80	83.4	4.4
30-39	No attempt	8	9.5	3.4
30-39	Missing	2	.	.
40-49	Yes	4	8.1	3.1
40-49	No	40	80.9	4.2
40-49	No attempt	6	11.0	3.6
50-99	Yes	15	16.3	2.9
50-99	No	64	70.1	5.0
50-99	No attempt	12	13.6	3.4
100+	Yes	16	22.2	6.7
100+	No	48	63.2	6.9
100+	No attempt	10	14.6	3.5
100+	Missing	1	.	.
Missing	Yes	1	.	.
Missing	No	14	.	.

Missing	No attempt	3	.	.
Missing	Missing	4	.	.
Appropriate skip	Appropriate skip	84	.	.



Figure D-48. Frequency of Boating in NDZ (days) by Whether Boater Had Problems (Q13 by Q17)



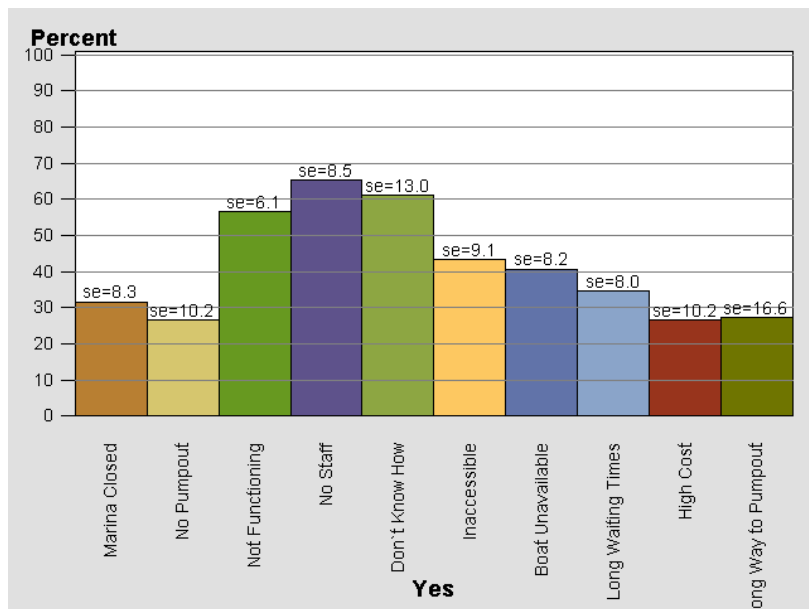
Frequency of Boating in NDZ (days)

Table D-49. Adverse Conditions Experienced by Boater by Whether Boater Had Problems (Q21 by Q17)

Adverse Conditions Experienced by Boater	Whether Boater Had Problems	Number	Weighted Percent	Standard Error
Marina Closed	Yes	11	31.6	8.3
Marina Closed	No	26	65.7	8.4
Marina Closed	No attempt	1	2.7	2.5
No Pumpout	Yes	12	26.6	10.2
No Pumpout	No	37	69.9	10.4
No Pumpout	No attempt	2	3.5	2.3
No Pumpout	Appropriate skip	1	.	.
Not Functioning	Yes	56	56.6	6.1
Not Functioning	No	40	38.2	7.0
Not Functioning	No attempt	5	5.2	2.7
No Staff	Yes	25	65.2	8.5
No Staff	No	14	34.8	8.5
No Staff	No attempt	0	0.0	0.0
No Staff	Missing	1	.	.
Don't Know How	Yes	6	61.1	13.0
Don't Know How	No	3	31.8	13.6
Don't Know How	No attempt	1	7.2	6.3
Inaccessible	Yes	13	43.4	9.1
Inaccessible	No	15	47.8	8.0
Inaccessible	No attempt	3	8.9	4.2
Boat Unavailable	Yes	12	40.7	8.2
Boat Unavailable	No	16	56.1	8.6
Boat Unavailable	No attempt	1	3.1	2.7
Long Waiting Times	Yes	11	34.7	8.0
Long Waiting Times	No	22	65.3	8.0
Long Waiting Times	No attempt	0	0.0	0.0
High Cost	Yes	7	26.6	10.2
High Cost	No	22	70.2	10.4
High Cost	No attempt	1	3.2	2.9
High Cost	Appropriate skip	1	.	.
Long Way to Pumpout	Yes	3	27.3	16.6
Long Way to Pumpout	No	8	59.5	14.7

Long Way to Pumpout	No attempt	2	13.2	7.5
No adverse conditions checked	Yes	1	52.3	.
No adverse conditions checked	No	1	47.7	.
Missing	Yes	5	.	.
Missing	No	91	.	.
Missing	No attempt	41	.	.
Missing	Missing	16	.	.
Appropriate skip	Appropriate skip	84	.	.

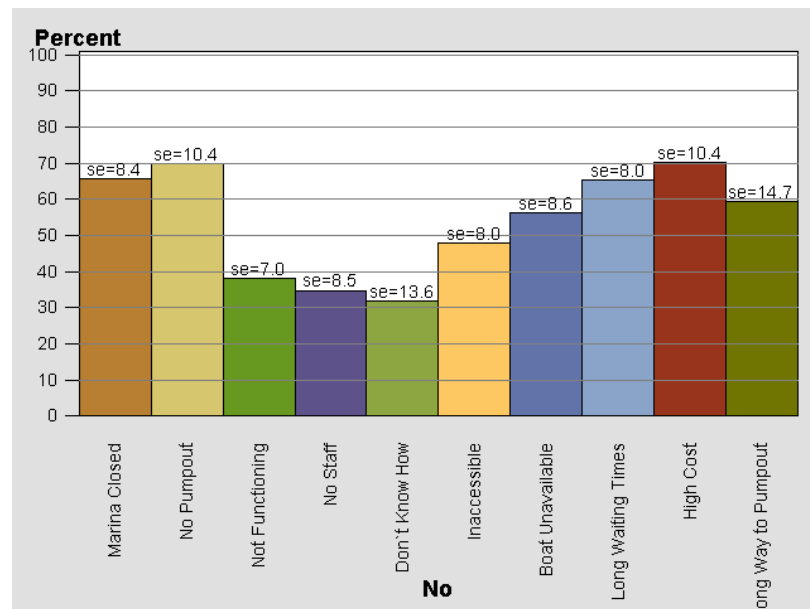
Figure D-49. Adverse Conditions Experienced by Boater by Whether Boater Had Problems (Q21 by Q17)



### Adverse Conditions Experienced by Boater

multiple response item - observations may be classified in more than one bar

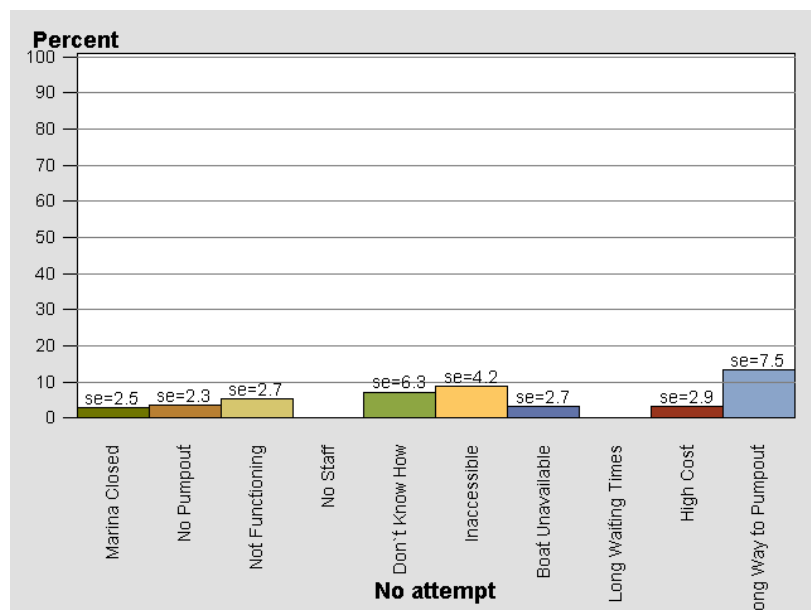
Figure D-50. Adverse Conditions Experienced by Boater by Whether Boater Had Problems (Q21 by Q17)



### Adverse Conditions Experienced by Boater

multiple response item - observations may be classified in more than one bar

Figure D-51. Adverse Conditions Experienced by Boater by Whether Boater Had Problems (Q21 by Q17)



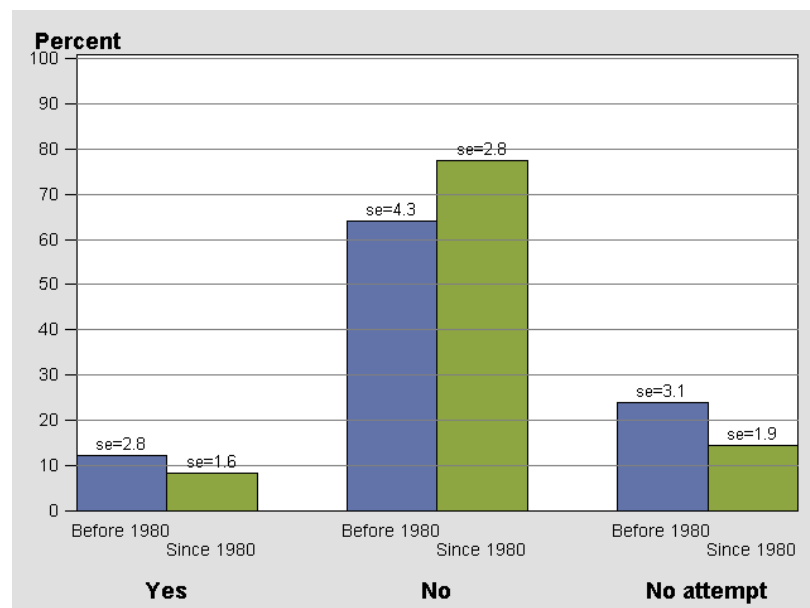
### Adverse Conditions Experienced by Boater

multiple response item - observations may be classified in more than one bar

Table D-52. NDZ Year of Origination by Whether Boater had Problems (NDZ Age by Q17)

NDZ Year of Origination	Whether Boater had Problems	Number	Weighted Percent	Standard Error
Before 1980	Yes	27	12.2	2.8
Before 1980	No	147	64.0	4.3
Before 1980	No attempt	54	23.8	3.1
Before 1980	Missing	2	.	.
Before 1980	Appropriate skip	13	.	.
Since 1980	Yes	52	8.1	1.6
Since 1980	No	485	77.6	2.8
Since 1980	No attempt	87	14.3	1.9
Since 1980	Missing	19	.	.
Since 1980	Appropriate skip	72	.	.

Figure D-52. NDZ Year of Origination by Whether Boater had Problems (NDZ Age by Q17)

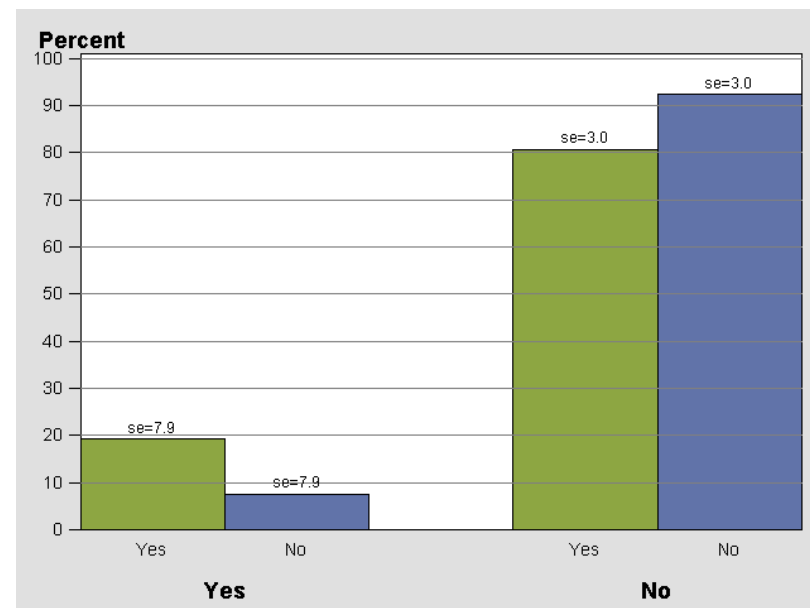


NDZ Year of Origination

Table D-53. Whether Boater Discharged Sewage Outside NDZ by Whether Boater was Deterred from Using Pumpout Equipment (Q20 by Q22)

Whether Boater Discharged Sewage Outside NDZ	Whether Boater was Deterred from Using Pumpout Equipment	Number	Weighted Percent	Standard Error
Yes	Yes	30	19.3	7.9
Yes	No	124	80.7	3.0
Yes	Missing	35	.	.
Yes	Appropriate skip	13	.	.
No	Yes	46	7.6	7.9
No	No	538	92.4	3.0
No	Missing	49	.	.
No	Appropriate skip	18	.	.
Missing	Yes	2	.	.
Missing	No	5	.	.
Missing	Missing	13	.	.
Missing	Appropriate skip	1	.	.
Appropriate skip	Appropriate skip	84	.	.

Figure D-53. Whether Boater Discharged Sewage Outside NDZ by Whether Boater was Deterred from Using Pumpout Equipment (Q20 by Q22)

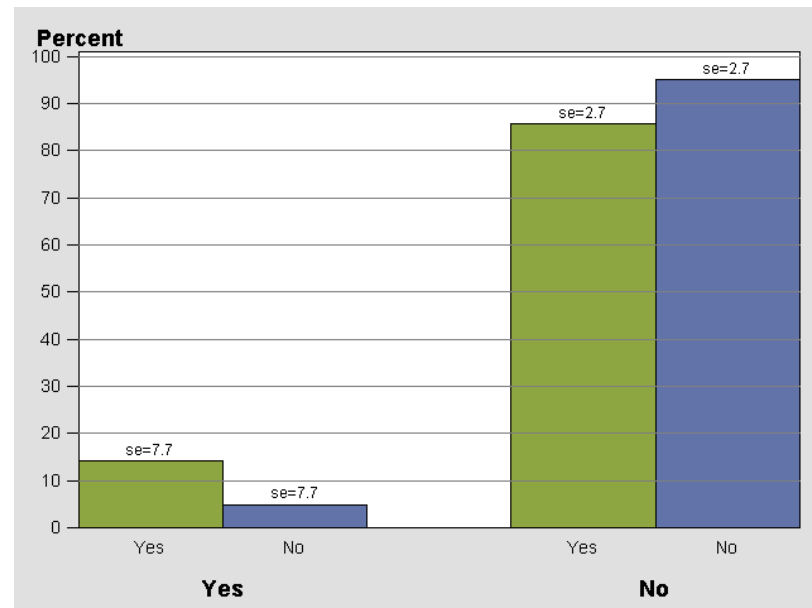


Whether Boater Discharged Sewage Outside NDZ

Table D-54. Whether Boater Discharged Sewage Outside NDZ by Whether Boater Found Working Pumpout Equipment (Q20 by Q19)

Whether Boater Discharged Sewage Outside NDZ	Whether Boater Found Working Pumpout Equipment	Number	Weighted Percent	Standard Error
Yes	Yes	25	14.2	7.7
Yes	No	174	85.8	2.7
Yes	Missing	3	.	.
No	Yes	32	4.9	7.7
No	No	615	95.1	2.7
No	Missing	4	.	.
Missing	No	5	.	.
Missing	Missing	16	.	.
Appropriate skip	Appropriate skip	84	.	.

Figure D-54. Whether Boater Discharged Sewage Outside NDZ by Whether Boater Found Working Pumpout Equipment (Q20 by Q19)



Whether Boater Discharged Sewage Outside NDZ