

## Appendix B

### Data Supporting Determination of the Shallow-Water Designated Use Depths and Underwater Bay Grasses Restoration Goals

**Table B-1.** Potential underwater bay grass habitat acreage by depth contour interval by Chesapeake Bay Program segment.

<b>Chesapeake Bay Program Segment</b>	<b>0–0.5 Meter Depth</b>	<b>0.5–1 Meter Depth</b>	<b>1–2 Meter Depth</b>
Northern Chesapeake Bay (CB1TF)	5,893	7,828	7,185
Upper Chesapeake Bay (CB2OH)	2,406	2,496	3,885
Upper Central Chesapeake Bay (CB3MH)	2,011	1,702	957
Middle Central Chesapeake Bay (CB4MH)	3,252	2,688	4,689
Lower Central Chesapeake Bay (CB5MH)	9,223	6,184	14,693
Western Lower Chesapeake Bay (CB6PH)	2,324.4	1,614	1,630
Eastern Lower Chesapeake Bay (CB7PH)	17,308	11,154	5,623
Mouth of the Chesapeake Bay (CB8PH)	381	314	355
Bush River (BSHOH)	1,136	932	2,536
Gunpowder River (GUNOH)	1,393	1,402	4,564
Middle River (MIDOH)	938	491	1,050
Back River (BACOH)	850	451	1,558
Patapsco River (PATMH)	1,042	766	1,610
Magothy River (MAGMH)	838	540	677
Severn River (SEVMH)	775	572	761
South River (SOUMH)	840	592	804
Rhode River (RHDMH)	267	162	281
West River (WSTMH)	542	491	435
Upper Patuxent River (PAXTF)	24	10	20
Western Branch Patuxent River (WBRTF)	0	0	0
Middle Patuxent River (PAXOH)	1,072	362	638
Lower Patuxent River (PAXMH)	3,376	1,745	3,672
Upper Potomac River (POTTF)	4,751	2,944	9,807
Anacostia River (ANATF)	85	99	137

<b>Chesapeake Bay Program Segment</b>	<b>0–0.5 Meter Depth</b>	<b>0.5–1 Meter Depth</b>	<b>1–2 Meter Depth</b>
Piscataway Creek (PISTF)	241	347	326
Mattawoman Creek (MATTF)	397	298	693
Middle Potomac River (POTOH)	3,148	4,038	8,008
Lower Potomac River (POTMH)	15,964	10,111	19,729
Upper Rappahannock River (RPPTF)	2,175	1,012	1,324
Middle Rappahannock River (RPPOH)	1,226	427	857
Lower Rappahannock River (RPPMH)	12,282	7,511	10,315
Corrotoman River (CRRMH)	1,279	540	792
Piankatank River (PIAMH)	3,237	2,429	2,348
Upper Mattaponi River (MPNTF)	835	203	371
Lower Mattaponi River (MPNOH)	323	80	151
Upper Pamunkey River (PMKTF)	1,860	327	465
Lower Pamunkey River (PMKOH)	420	129	258
Middle York River (YRKMH)	4,728	3,703	4,285
Lower York River (YRKPH)	3,332	1,617	2,049
Mobjack Bay (MOBPH)	14,207	8,761	11,022
Upper James River (JMSTF)	8,249	2,149	2,438
Appomattox River (APPTF)	1,084	221	298
Middle James River (JMSOH)	3,179	3,289	4,476
Chickahominy River (CHKOH)	3,283	222	996
Lower James River (JMSMH)	9,618	5,455	11,525
Mouth of the James River (JMSPH)	1,037	578	786
Western Branch Elizabeth River (WBEMH)	0	0	0
Southern Branch Elizabeth River (SBEMH)	0	0	0
Eastern Branch Elizabeth River (EBEMH)	0	0	0
Lafayette River (LAFMH)	0	0	0
Mouth to Mid-Elizabeth River (ELIPH)	0	0	0
Lynnhaven River (LYNPH)	2476	807	658
Northeast River (NORTF)	456	476	1,810

<b>Chesapeake Bay Program Segment</b>	<b>0–0.5 Meter Depth</b>	<b>0.5–1 Meter Depth</b>	<b>1–2 Meter Depth</b>
C & D Canal (C&DOH)	99	24	48
Bohemia River (BOHOH)	735	397	772
Elk River (ELKOH)	1,595	1,186	2,244
Sassafrass River (SASOH)	1,644	971	1,096
Upper Chester River (CHSTF)	574	192	104
Middle Chester River (CHSOH)	926	736	646
Lower Chester River (CHSMH)	4,183	2,798	4,520
Eastern Bay (EASMH)	7,423	5,659	7,723
Upper Choptank River (CHOTF)	0	0	0
Middle Choptank River (CHOOH)	592	260	432
Lower Choptank River (CHOMH2)	2,264	1,507	3,062
Mouth of the Choptank River (CHOMH1)	8,101	4,861	7,895
Little Choptank River (LCHMH)	5,012	3,011	4,344
Honga River (HNGMH)	6,117	4,513	5,826
Fishing Bay (FSBMH)	2,467	4,461	6,714
Upper Nanticoke River (NANTF)	0	0	0
Middle Nanticoke River (NANOH)	1,141	380	531
Lower Nanticoke River (NANMH)	1,583	1,605	4,524
Wicomico River (WICMH)	1,514	1,525	2,872
Manokin River (MANMH)	3,590	3,132	3,979
Big Annemessex River (BIGMH)	1,994	1,199	1,872
Upper Pocomoke River (POCTF)	0	0	0
Middle Pocomoke River (POCOH)	289	58	111
Lower Pocomoke River (POCMH)	3,915	6,090	4,412
Tangier Sound (TANMH)	20,101	18,720	31,052

**Table B-2.** Underwater bay grass acreage by Chesapeake Bay Program segment and year with the single best year of acreage highlighted.


Segment	Historical	1978	1979	1980	1981	1984	1985	1986	1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
CB1TF	13,124	2,057	527			5,338	5,033	5,774	5,461	4,798	4,378	4,161	4,348	4,360	6,614	5,087	5,185	6,008	5,529	6,209	7,619
CB2OH	985	116	42			21	277	31	199		16	9	86	19	8	19	47	242	272	1	640
CB3MH	834	1,296	905			887	808	420	532	205	74	40	412	767	767	799	827	832	665	6	7
CB4MH	2,803	176	8			21	62	12	9	1	11	5	17	12				46		23	
CB5MH	16,121	857	952	73	316	650	1,255	1,068	2,064	2,430	2,987	1,976	3,909	2,958	1,758	1,611	1,629	1,685	1,496	2,110	2,998
CB6PH	1,232	692		433	542	748	796	771	583	843	888	932	1,100	1,208	1,070	1,023	933	859	734	635	682
CB7PH	14,753	5,973		4,446	5,627	6,875	7,036	7,273	7,115	7,825	7,960	9,618	9,986	10,729	9,676	8,569	9,223	9,474	8,675	8,006	8,107
CB8PH																10	11	11	10	7	7
BSHOH	227	1				2	25		35				4				88	79	4		187
GUNOH	1,889	464	326				110		71	41	203	160	220	62	172	148	819	1,463	2,029	235	2,281
MIDOH	870	236	442				193		87	17	6	14	102	15	56	10	67	269	93	87	698
BACOH																					
PATMH	494	114	5												1		6	5	13		
MAGMH	682	319	427			23	8	2	1					32	42	74	79	116	167	60	83
SEVMH	341	318	303					0							77	123	262	293	376	433	123
SOUMH	532	47													4	5	20	37	50	16	
RHDMH	86	14																			
WSTMH	313	106					5	1							11				8		
PAXTF							10								34	23	44	31	38		16
WBRTF																					
PAXOH	44	2													31	55	58	67	72		80
PAXMH	1,630	56				24	108	34	101	1				2	2			3		9	
POTTF	835					1,134	2,797	3,144	3,032	2,988	3,663	4,466	3,154	3,186	2,186	1,368	1,488	1,259	2,537	3,106	3,670
ANATF						9	8	5	9	10	10	11	11	13	13	15	13	8	5	8	10
PISTF						341	520	753	783	22	137	265	16	33	73	78	121	296	304	114	309
MATTF	23							17	7	96	99	143	138	132	66	27	103	117	151	194	311
POTOH	902	569	361			429	952	857	1,080	2,683	2,800	2,974	3,184	2,750	2,683	2,084	2,262	2,478	3,766	2,752	3,393
POTMH	12,765	439				109	133	99	114	232	250	312	221	253	455	565	925	1,497	1,520	2,130	947
RPPTF																			13	15	20

**Table B-2.** Underwater bay grass acreage by Chesapeake Bay Program segment and year with the single best year of acreage highlighted.

Segment	Historical	1978	1979	1980	1981	1984	1985	1986	1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
RPOH																					
RPPMH	7,694	65		1		33	20	19	244	841	261	119	160	301	69	48	54	27	16	78	173
CRRMH	645	4							147	412	419	354	329	214	123	18	51	35	38	164	243
PIAMH	3,426	107		5	10	25	26	25	97	323	556	615	738	1,003	569	333	326	403	305	273	390
MPNTF																			84		
MPNOH																					
PMKTF																			184		167
PMKOH																					
YRKMH	228																				
YRKPH	2,740	260		253	274	435	428	421	458	566	662	649	663	672	706	722	731	815	719	629	736
MOBPH	15,602	6,673		5,725	5,915	6,673	6,936	6,877	7,080	8,838	9,627	10,341	10,506	10,653	10,504	10,528	10,306	10,641	9,771	8,571	8,815
JMSTF	1,724																		72		52
APPTF	353																				
JMSOH																			8		3
CHKOH	0	113						29											388	79	422
JMSMH	638																2		2	3	2
JMSPH	682	22							7	9	7	7	9	10	15	38	46	184	129	77	93
WBEMH																					
SBEMH																					
EBEMH																					
ELIMH																					
LAFMH																					
ELIPH																					
LYNPH						94	90	105	93	89	68	54	46	50	97	29	69	37	38	91	46
NORTF	163	10						1	0						16	15	11	10	18	11	19
C&DOH		2																			
BOHOH	45						16	1		17	17	1	4	0	3	27	29	32	105	77	172
ELKOH	269	2				33	92	11	18	465	871	656	586	227	434	300	100	157	484	768	1,670
SASOH	4	14				17	56	34	18	214	69	60	15	175	178	423	221	247	143	216	908

**Table B-2.** Underwater bay grass acreage by Chesapeake Bay Program segment and year with the single best year of acreage highlighted.

Segment	Historical	1978	1979	1980	1981	1984	1985	1986	1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
CHSTF																					
CHSOH	103																				
CHSMH	3,558	2,369	2,062			955	775	327	623	161	72	80	168	702	919	997	691	910	1,026	669	
EASMH	6,296	3,158	939			194	884	588	2,130	1,966	903	157	1,306	1,736	2,311	3,184	3,475	4,201	2,480	4,610	
CHOTF																					
CHOOH	79																				
CHOMH2	1,899	193	161				80	20					14	6				3			
CHOMH1	8,581	4,328	1,942			130	3,171	646	674	1,988	275	197	2,232	4,110	3,425	3,513	5,512	6,444	5,228	3,646	1,622
LCHMH	4,008	301	8			56	797	341	164	65	160	70	315	368	121	41	809	1,220	1,375	1,454	1,046
HNGMH	7,873	319	367			32	743	623	1,546	2,344	2,769	3,122	3,520	4,245	3,192	2,081	1,434	2,096	725	1,816	2,674
FSBMH	726							0	5	19	13	1	32	36	59	27				5	6
NANTF																					
NANOH	4																				
NANMH	6																				
WICMH	8																				
MANMH	4,396	187					168	328	327	200	239	263	326	357	145	214	18	130	32	226	420
BIGMH	2,180	435	0				334	388	212	299	291	396	379	400	344	388	194	311	207	409	546
POCTF																					
POCOH																					
POCMH	4,851	209	22	278	608	1,050	938	1,344	1,158	1,442	1,430	1,738	1,711	1,831	1,575	1,558	1,545	1,251	1,076	1,090	1,126
TANMH	39,589	7,126	1,704	4,512	6,226	11,019	11,675	13,944	12,245	15,336	15,886	16,966	17,688	16,463	12,086	11,205	10,829	9,268	6,479	10,386	12,272

 Year of maximum underwater bay grass acreage.

 No recorded underwater bay grass for any year.

**Table B-3.** Percent of potential shallow-water habitat covered by underwater bay grass from 1978-2000 at five-year intervals by Chesapeake Bay Program segment.

CBP Segment Name	Bay Segment	1978-1984			1985-1990			1991-1995			1996-2000		
		0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m
Northern Chesapeake Bay	CB1TF	51.0	26.3	14.9	61.1	29.8	17.3	66.0	30.0	9.5	80.1	36.8	9.4
Upper Chesapeake Bay	CB2OH	4.6	1.2	0.2	7.9	8.5	1.8	2.3	1.9	0.2	13.2	8.1	6.2
Upper Central Chesapeake Bay	CB3MH	52.7	21.3	7.5	41.3	4.5	0.9	39.4	4.6	1.0	41.9	6.1	0.8
Middle Central Chesapeake Bay	CB4MH	5.5	0.6	0.0	2.5	0.0	0.0	0.7	0.0	0.0	2.1	0.0	0.0
Lower Central Chesapeake Bay	CB5MH	15.8	8.4	1.2	23.1	15.9	3.5	24.4	21.3	5.1	18.8	18.6	4.0
Western Lower Chesapeake Bay	CB6PH	22.2	25.7	4.8	23.3	25.3	3.6	30.7	31.4	4.9	25.5	25.3	4.0
Eastern Lower Chesapeake Bay	CB7PH	33.1	26.1	10.8	38.2	27.6	11.0	43.7	31.0	13.6	42.1	29.0	13.9
Mouth of the Chesapeake Bay	CB8PH	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.3	0.4	2.2	1.4	0.4
Bush River	BSHOH	0.2	0.0	0.0	2.8	1.4	0.0	0.4	0.0	0.0	11.4	9.4	1.2
Gunpowder River	GUNOH	15.9	8.9	4.2	8.6	6.9	3.4	12.7	7.4	3.4	54.1	40.1	30.0
Middle River	MIDOH	43.4	18.1	3.8	11.9	11.3	9.1	10.3	4.8	0.7	41.0	41.1	19.0
Back River	BACOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Patapsco River	PATMH	6.0	5.3	0.7	0.0	0.0	0.0	0.1	0.0	0.0	1.0	0.4	0.0
Magothy River	MAGMH	40.5	16.8	6.5	0.8	0.4	0.0	8.6	2.3	0.3	21.8	5.5	1.0
Severn River	SEVMH	25.4	19.5	7.8	0.0	0.0	0.0	7.9	8.9	1.7	27.7	24.7	11.7



CBP Segment Name	Bay Segment	1978-1984			1985-1990			1991-1995			1996-2000		
		0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m
Upper Pamunkey River	PMKTF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	8.9	2.0
Lower Pamunkey River	PMKOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle York River	YRKMH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lower York River	YRKPH	12.1	6.7	1.0	13.9	13.7	2.5	15.8	15.3	2.7	18.3	16.2	3.2
Mobjack Bay	MOBPH	36.3	37.4	5.8	41.2	44.0	8.9	44.5	49.7	8.3	45.1	48.6	8.2
Upper James River	JMSTF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.5	0.5
Appomattox River	APPTF	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle James River	JMSOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Chickahominy River	CHKOH	2.9	3.7	0.8	0.6	1.9	0.3	0.0	0.0	0.0	14.8	27.6	3.5
Lower James River	JMSMH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mouth of the James River	JMSPH	1.6	1.0	0.0	1.1	0.0	0.0	3.4	0.7	0.0	17.2	10.1	0.8
Western Branch Elizabeth River	WBEMH	*	*	*	*	*	*	*	*	*	*	*	0
Southern Branch Elizabeth River	SBEMH	*	*	*	*	*	*	*	*	*	*	*	0
Eastern Branch Elizabeth River	EBEMH	*	*	*	*	*	*	*	*	*	*	*	0
Lafayette River	LAFMH	*	*	*	*	*	*	*	*	*	*	*	0
Mouth of the Elizabeth River	ELIPH	*	*	*	*	*	*	*	*	*	*	*	0
Lynnhaven River	LYNPH	2.3	3.0	1.7	4.1	4.9	2.7	3.6	2.6	1.6	3.5	3.3	1.1
Northeast River	NORTF	2.1	0.1	0.0	0.3	0.0	0.0	5.8	0.3	0.0	6.8	0.0	0.0



CBP Segment Name	Bay Segment	1978-1984			1985-1990			1991-1995			1996-2000		
		0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m	0-0.5 m	0.5-1 m	1-2 m
Manokin River	MANMH	3.9	1.4	0.0	11.8	3.9	0.1	10.6	5.1	0.2	11.1	2.9	0.1
Big Annemessex River	BIGMH	13.3	13.7	0.3	24.6	11.6	0.7	21.2	8.6	0.2	24.2	11.3	0.3
Upper Pocomoke River	POCTF	*	*	*	*	*	*	*	*	*	*	*	0
Middle Pocomoke River	POCOH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lower Pocomoke River	POCMH	11.7	12.4	0.7	17.7	17.5	3.9	19.7	17.8	2.9	17.7	16.8	2.4
Tangier Sound	TANMH	33.2	23.2	5.3	47.3	32.8	8.7	50.0	34.0	8.9	40.0	26.1	6.6

Underwater bay grasses cover  $\geq 10$  percent of potential habitat for all 4 of the time periods.

Underwater bay grasses cover  $\geq 10$  percent of potential habitat for all 3 of the time periods.

Note: While some periods span more than 5 years, each period represents only 5 years worth of data.

There were some years when no underwater bay grass surveys occurred (i.e., 1982, 1983 and 1988).

\*denotes no data available or no underwater bay grasses mapped.