

## 2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort



The focus of the survey is Gray whales (northbound) during migration. We also record observations of all marine-mammal species, including Harbor seals and Southern Sea otters. Of the species sighted, only Gray whales (north and southbound) are migrating past the Point. Their tallies indicate the number of unique animals observed at each sighting. At the end of the day (and survey), we can add the numbers at sightings to total the northbound and southbound Gray whales migrating past Counter Point.

Harbor seals and Sea otters move about the area, coming and going, back and forth, diving and surfacing, feeding and resting. We may have more than one sighting of a particular otter over the day. Since we cannot differentiate, if we see an otter in the morning, then go about tracking Gray whales, and then sight an otter in the afternoon, we would not know if it was the same otter. There would be two sightings in the day, but we may have seen only one otter.

In this report, we are trying to determine an "at least" number of unique seals and otters. In the above example, we would enter an "at least" number of 1.

On another day, we might see three Harbor seals resting in the kelp. Here, we know there is more than one: three at that particular sighting. If, later in the day, we sight a single seal swimming at the surface, we do not know if it is one of the three sighted earlier or a different one. We can't add the totals of the sightings together because that would indicate four distinct seals. If nothing changed beyond these two sightings, we would record an "at least" number of 3 Harbor seals for the day.

Over the course of survey 2016, we believe we observed at least five, individual Harbor seals and five Sea otters in our area.

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prepared by Michael H Smith, Project Coordinator, Gray Whales Count, Santa Barbara, California, USA.

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2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>Feb 16</b>	Day 1 of 101	Sightings	Effort Hours 7:45
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 17</b>	Day 2 of 101	Sightings	Effort Hours 4:21
		Harbor seals	0
		Southern Sea otters	0
<b>Feb 18</b>	Day 3 of 101	Sightings	Effort Hours 3:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 19</b>	Day 4 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 20</b>	Day 5 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 21</b>	Day 6 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 22</b>	Day 7 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 23</b>	Day 8 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 24</b>	Day 9 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 25</b>	Day 10 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0
<b>Feb 26</b>	Day 11 of 101	Sightings	Effort Hours 5:40
		Harbor seals	2
		Southern Sea otters	1
<b>Feb 27</b>	Day 12 of 101	Sightings	Effort Hours 8:00
		Harbor seals	1
		Southern Sea otters	0

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>Feb 28</b> Day 13 of 101	Sightings	Effort Hours 8:09	
	Harbor seals		1
	Southern Sea otters		1
<b>Feb 29</b> Day 14 of 101	Sightings	Effort Hours 0:00	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 01</b> Day 15 of 101	Sightings	Effort Hours 2:35	
	Harbor seals		2
	Southern Sea otters		3
<b>Mar 02</b> Day 16 of 101	Sightings	Effort Hours 7:05	
	Harbor seals		0
	Southern Sea otters		5
<b>Mar 03</b> Day 17 of 101	Sightings	Effort Hours 6:55:0	
	Harbor seals		0
	Southern Sea otters		5
<b>Mar 04</b> Day 18 of 101	Sightings	Effort Hours 7:56	
	Harbor seals		1
	Southern Sea otters		4
<b>Mar 05</b> Day 19 of 101	Sightings	Effort Hours 1:03	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 06</b> Day 20 of 101	Sightings	Effort Hours 0:23	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 07</b> Day 21 of 101	Sightings	Effort Hours 0:26	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 08</b> Day 22 of 101	Sightings	Effort Hours 3:44	
	Harbor seals		0
	Southern Sea otters		1
<b>Mar 09</b> Day 23 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		0
	Southern Sea otters		1
<b>Mar 10</b> Day 24 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		1

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>Mar 11</b> Day 25 of 101	Sightings	Effort Hours 0:00	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 12</b> Day 26 of 101	Sightings	Effort Hours 1:19	
	Harbor seals		0
	Southern Sea otters		1
<b>Mar 13</b> Day 27 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		1
<b>Mar 14</b> Day 28 of 101	Sightings	Effort Hours 0:24	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 15</b> Day 29 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		0
<b>Mar 16</b> Day 30 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		1
<b>Mar 17</b> Day 31 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		1
<b>Mar 18</b> Day 32 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		3
	Southern Sea otters		2
<b>Mar 19</b> Day 33 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		0
	Southern Sea otters		2
<b>Mar 20</b> Day 34 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		1
<b>Mar 21</b> Day 35 of 101	Sightings	Effort Hours 4:41	
	Harbor seals		1
	Southern Sea otters		1
<b>Mar 22</b> Day 36 of 101	Sightings	Effort Hours 0:00	
	Harbor seals		0
	Southern Sea otters		0

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>Mar 23</b> Day 37 of 101	Sightings	Effort Hours 8:06	
	Harbor seals		1
	Southern Sea otters		2
<b>Mar 24</b> Day 38 of 101	Sightings	Effort Hours 8:04	
	Harbor seals		2
	Southern Sea otters		1
<b>Mar 25</b> Day 39 of 101	Sightings	Effort Hours 7:03	
	Harbor seals		0
	Southern Sea otters		0
<b>Mar 26</b> Day 40 of 101	Sightings	Effort Hours 8:06	
	Harbor seals		1
	Southern Sea otters		1
<b>Mar 27</b> Day 41 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		1
<b>Mar 28</b> Day 42 of 101	Sightings	Effort Hours 2:43	
	Harbor seals		1
	Southern Sea otters		2
<b>Mar 29</b> Day 43 of 101	Sightings	Effort Hours 0:24	
	Harbor seals		0
	Southern Sea otters		1
<b>Mar 30</b> Day 44 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		4
	Southern Sea otters		1
<b>Mar 31</b> Day 45 of 101	Sightings	Effort Hours 6:37	
	Harbor seals		2
	Southern Sea otters		1
<b>Apr 01</b> Day 46 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		1
<b>Apr 02</b> Day 47 of 101	Sightings	Effort Hours 7:20	
	Harbor seals		1
	Southern Sea otters		2
<b>Apr 03</b> Day 48 of 101	Sightings	Effort Hours 4:46	
	Harbor seals		0
	Southern Sea otters		2

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>Apr 04</b> Day 49 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		2
<b>Apr 05</b> Day 50 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		3
	Southern Sea otters		2
<b>Apr 06</b> Day 51 of 101	Sightings	Effort Hours 7:04	
	Harbor seals		3
	Southern Sea otters		1
<b>Apr 07</b> Day 52 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		4
	Southern Sea otters		0
<b>Apr 08</b> Day 53 of 101	Sightings	Effort Hours 0:00	
	Harbor seals		0
	Southern Sea otters		0
<b>Apr 09</b> Day 54 of 101	Sightings	Effort Hours 6:00	
	Harbor seals		1
	Southern Sea otters		1
<b>Apr 10</b> Day 55 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		1
<b>Apr 11</b> Day 56 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		4
	Southern Sea otters		1
<b>Apr 12</b> Day 57 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		5
	Southern Sea otters		1
<b>Apr 13</b> Day 58 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		3
	Southern Sea otters		1
<b>Apr 14</b> Day 59 of 101	Sightings	Effort Hours 0:06	
	Harbor seals		0
	Southern Sea otters		0
<b>Apr 15</b> Day 60 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		0

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

				Total Sighted
<b>Apr 16</b>	Day 61 of 101	Sightings	Effort Hours 8:00	
		Harbor seals		1
		Southern Sea otters		1
<b>Apr 17</b>	Day 62 of 101	Sightings	Effort Hours 8:00	
		Harbor seals		3
		Southern Sea otters		1
<b>Apr 18</b>	Day 63 of 101	Sightings	Effort Hours 8:00	
		Harbor seals		2
		Southern Sea otters		1
<b>Apr 19</b>	Day 64 of 101	Sightings	Effort Hours 8:00	
		Harbor seals		1
		Southern Sea otters		0
<b>Apr 20</b>	Day 65 of 101	Sightings	Effort Hours 8:02	
		Harbor seals		2
		Southern Sea otters		0
<b>Apr 21</b>	Day 66 of 101	Sightings	Effort Hours 6:38	
		Harbor seals		0
		Southern Sea otters		0
<b>Apr 22</b>	Day 67 of 101	Sightings	Effort Hours 3:49	
		Harbor seals		0
		Southern Sea otters		0
<b>Apr 23</b>	Day 68 of 101	Sightings	Effort Hours 5:39	
		Harbor seals		0
		Southern Sea otters		1
<b>Apr 24</b>	Day 69 of 101	Sightings	Effort Hours 5:26	
		Harbor seals		2
		Southern Sea otters		0
<b>Apr 25</b>	Day 70 of 101	Sightings	Effort Hours 0:40	
		Harbor seals		0
		Southern Sea otters		0
<b>Apr 26</b>	Day 71 of 101	Sightings	Effort Hours 8:16	
		Harbor seals		1
		Southern Sea otters		0
<b>Apr 27</b>	Day 72 of 101	Sightings	Effort Hours 2:46	
		Harbor seals		0
		Southern Sea otters		0

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>Apr 28</b> Day 73 of 101	Sightings	Effort Hours 1:02	
	Harbor seals		0
	Southern Sea otters		0
<b>Apr 29</b> Day 74 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		0
<b>Apr 30</b> Day 75 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		1
<b>May 01</b> Day 76 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		1
<b>May 02</b> Day 77 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		0
<b>May 03</b> Day 78 of 101	Sightings	Effort Hours 4:40	
	Harbor seals		2
	Southern Sea otters		0
<b>May 04</b> Day 79 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		0
<b>May 05</b> Day 80 of 101	Sightings	Effort Hours 8:09	
	Harbor seals		1
	Southern Sea otters		0
<b>May 06</b> Day 81 of 101	Sightings	Effort Hours 8:23	
	Harbor seals		1
	Southern Sea otters		0
<b>May 07</b> Day 82 of 101	Sightings	Effort Hours 8:20	
	Harbor seals		2
	Southern Sea otters		0
<b>May 08</b> Day 83 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		0
<b>May 09</b> Day 84 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		2
	Southern Sea otters		0



2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

				Total Sighted
<b>May 10</b> Day 85 of 101	Sightings	Effort Hours 8:12		
	Harbor seals			2
	Southern Sea otters			0
<b>May 11</b> Day 86 of 101	Sightings	Effort Hours 8:02		
	Harbor seals			0
	Southern Sea otters			0
<b>May 12</b> Day 87 of 101	Sightings	Effort Hours 8:00		
	Harbor seals			2
	Southern Sea otters			0
<b>May 13</b> Day 88 of 101	Sightings	Effort Hours 8:15		
	Harbor seals			1
	Southern Sea otters			0
<b>May 14</b> Day 89 of 101	Sightings	Effort Hours 8:00		
	Harbor seals			0
	Southern Sea otters			0
<b>May 15</b> Day 90 of 101	Sightings	Effort Hours 8:07		
	Harbor seals			1
	Southern Sea otters			0
<b>May 16</b> Day 91 of 101	Sightings	Effort Hours 8:00		
	Harbor seals			1
	Southern Sea otters			0
<b>May 17</b> Day 92 of 101	Sightings	Effort Hours 8:00		
	Harbor seals			1
	Southern Sea otters			0
<b>May 18</b> Day 93 of 101	Sightings	Effort Hours 8:15		
	Harbor seals			1
	Southern Sea otters			0
<b>May 19</b> Day 94 of 101	Sightings	Effort Hours 8:00		
	Harbor seals			1
	Southern Sea otters			0
<b>May 20</b> Day 95 of 101	Sightings	Effort Hours 1:19		
	Harbor seals			1
	Southern Sea otters			0
<b>May 21</b> Day 96 of 101	Sightings	Effort Hours 7:01		
	Harbor seals			1
	Southern Sea otters			0

2016 Daily "At least" Totals for Harbor seals and Sea otters, On-Effort

			Total Sighted
<b>May 22</b> Day 97 of 101	Sightings	Effort Hours 6:41	
	Harbor seals		1
	Southern Sea otters		0
<b>May 23</b> Day 98 of 101	Sightings	Effort Hours 8:00	
	Harbor seals		0
	Southern Sea otters		0
<b>May 24</b> Day 99 of 101	Sightings	Effort Hours 8:02	
	Harbor seals		1
	Southern Sea otters		0
<b>May 25</b> Day 100 of	Sightings	Effort Hours 5:06	
	Harbor seals		0
	Southern Sea otters		0
<b>May 26</b> Day 101 of	Sightings	Effort Hours 8:00	
	Harbor seals		1
	Southern Sea otters		0