

Puget Sound Pilotage District Authorized Number of Pilots

BPC Staff Recommendation: 60

STAFF RECOMMENDATION

BPC staff have reviewed the submittals from Parties of Interest received July 10, 2024, and recommend setting the Authorized Number of Pilots at 60, based on available data, trends in assignment levels, and expected retirements (both mandatory and elective retirements).

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Pages 1-3	Review of submittals: <ul style="list-style-type: none">• Main points of submittals are summarized, with BPC comments.<ul style="list-style-type: none">~ PMSA & PSP pilotage demand forecasts~ PMSA & PSP suggested number of authorized pilots~ PSP supporting arguments~ PMSA supporting arguments (including 13 recommendations)
Page 4	Table 1 <ul style="list-style-type: none">• Forecasting annual assignments• Converting forecasted annual assignments to a range of number of pilots
Page 5	Table 2 <ul style="list-style-type: none">• Converting number of pilots to a range of number of assignments

ISSUE	PMSA SUBMITTAL	PSP SUBMITTAL	BPC STAFF COMMENT
PMSA & PSP Pilotage demand forecast	On page 1 of submittal: <ul style="list-style-type: none"> Multiple years of data preferred Note current demand is comparable to 7483 jobs in 2022 Average of 2017, 2018, 2019, 2022, and 2023 annual assignments (5 years, excluding 2020 and 2021) = 7209 annual assignments	On page 4 of submittal: <ul style="list-style-type: none"> Single year of data preferred (trailing 12 months) Trailing 12 months assignments (July 2023 thru June 2024) total 7634 Subtract 104 for known service change per NWSA. = 7530 annual assignments	Forecasting based on past data is a method that is commonly used, with the caveat that past data cannot predict future demand with certainty. Also, there is some arbitrariness in selecting which past data to use (good arguments can be made for a variety of choices). SEE TABLE 1 for more info about annual assignment forecast. PMSA submittal included data outside of the board-specified date range.
PMSA & PSP Suggested number of pilots	$57 (7209/129.15 = 55.8 \text{ pilots, plus 1 for president.})$	$62 (7530/ 129.15 = 58.3 \text{ pilots not including president} = 60 \text{ pilots when NFFD and president are factored in. increase from 56 to 60 plus 2 more to resolve accumulated callbacks})$	Both PSP and PMSA forecast annual assignments and then assume 95% of the demand will be met by pilots working on watch and 5% will be met by pilots working callbacks. Note that BPC seeks to <i>limit</i> callbacks to 5%, not <i>require</i> 5% callbacks. PMSA calculation omits consideration of NFFD. Need to add 1 more for average NFFD. CORRECTED TOTAL 58.
PSP supporting arguments		+4 Supported using TAL arithmetic above, following WAC elements and requirements +2 Supported by consultant recommend.	If a range of forecasted assignments is considered, then a higher number of pilots might need to be considered. SEE TABLES 1 & 2.
PSP CONCLUSION/ OTHER COMMENT		Request for annual review of authorized number of pilots.	BPC continues to monitor assignment levels and regulatory changes. Biennial review is an appropriate frequency.
PMSA 1st argument Category: UNDERLYING ASSUMPTIONS/ CALCULATIONS	Current pilot supply exceeds demand if comparing daily assignment count to number of licensed pilots, assuming half on watch each day, assuming assignments consume 1.0 on watch days.		TAL analysis found ~1.4 on watch days per on watch assignment so this 1:1 assumption is flawed. BPC staff reject PMSA's continued claims that pilots work fewer on watch days than scheduled and note the 1.4-day figure includes essential service activities and rest requirements, as well as times when no assignment is available.
PMSA 2nd argument Category: UNDERLYING ASSUMPTIONS/ CALCULATIONS	$TAL (on watch) plus 5\% callbacks = 129.15 \text{ assignments per pilot per year}$ PMSA forecast = 7209 annual assignments = 56 pilots (not including president). Total 57 with president, an increase of 1.		SEE TABLE 2. BPC seeks to <i>limit</i> callbacks to 5%, not <i>require</i> 5% callbacks. Recommend that annual assignment forecasts utilize the <i>range</i> between 0% and 5% callbacks to factor in some wiggle room. (Both PMSA and PSP submittals assume 5% callback rate to meet the assignment forecast. If actual assignments are higher, then greater than 5% callbacks will be required.) PMSA calculation omits consideration of NFFD. Need to add 1 more for average NFFD. CORRECTED TOTAL 58.

ISSUE	PMSA SUBMITTAL	PSP SUBMITTAL	BPC STAFF COMMENT
PMSA 3rd argument Category: INSUFFICIENT OVERSIGHT & DATA	Supply and demand impacts of pilots not working their watch schedule. Rec 1: daily reporting Rec 2: improved data, more focused on changing factors & need for pilots		Daily reporting is a monumental and costly undertaking, with no identified benefit. BPC staff monitor factors that necessitate adjustment in authorized number of pilots (see dashboards).
PMSA 4th argument Category: INSUFFICIENT OVERSIGHT & DATA	BPC should monitor watchstanding. Inconsistent of BPC to look at pilot on watch availability but not verify pilots are working.		BPC staff note that Puget Sound Pilots provide detailed monthly reports (which BPC shares with PMSA) of both revenue activity (pilotage assignments) and nonrevenue activity (essential service activity such as training, upgrade trips, and meetings). BPC staff have not observed pilots failing to comply with watchstanding schedules or PSP rules concerning time off.
PMSA 5th argument Category: INSUFFICIENT OVERSIGHT & DATA also COMP DAYS	Pilot utilization rate, pilots not working their watch schedule and/or taking comp days at inopportune times, insufficient oversight. Rec 3: Current on watch utilization 68% (123 assigns per 180.65 days). BPC should evaluate if this is acceptable efficiency. Rec 4: add 2 duty days (increase PPW to 5 days instead of 3) Rec 5: Adjust watch schedules to have more summer days on watch Rec 6: Adjust watch schedules to have more peak days of week on watch Rec 7: Change day shouldn't be all day Rec 8: Track when callbacks are created by comp days. Rec 9: Pay attention to effect of more pilots on comp day accumulation.		BPC staff continue to monitor effects of improved pilot staffing on comp day accumulation and callbacks, as well as the effects of a less stressed system in general. BPC staff recommend no changes to PSP watch schedule at this time, especially since the schedule was extensively overhauled recently.
PMSA 6th argument Category: INSUFFICIENT OVERSIGHT & DATA also COMP DAYS	If pilot licenses increase, then comp day backlog should decrease. BPC should analyze relationship between number of pilots, number of assignments, number of comp days, and number of callbacks. (NFFD status also factors in.)		BPC staff continue to monitor effects of improved pilot staffing on comp day accumulation and callbacks, as well as the effects of a less stressed system in general.

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<p>PMSA 7th argument</p> <p>Category: INSUFFICIENT OVERSIGHT & DATA</p>	<p>BPC should monitor pilot watchstanding in more detail. Rec 10: report if pilot on watch but not avail. Rec 11: compare daily assigns & avail pilots and analyze reasons for shortages Rec 12: analyze days with multiple assigns to determine on watch days worked rather than count of assignments.</p>		<p>Daily reporting is a monumental and costly undertaking, with no identified benefit.</p> <p>BPC staff monitor factors that necessitate adjustment in authorized number of pilots (see dashboards).</p> <p>BPC staff note that Puget Sound Pilots provide detailed monthly reports (which BPC shares with PMSA) of both revenue activity (pilotage assignments) and nonrevenue activity (essential service activity such as training, upgrade trips, and meetings). BPC staff have not observed pilots failing to comply with watchstanding schedules or PSP rules concerning time off.</p>
<p>PMSA 8th argument</p> <p>Category: INSUFFICIENT OVERSIGHT & DATA</p>	<p>BPC should monitor nonrevenue activities more closely Rec 13: ensure that on/off watch split is acceptable and that short meetings aren't causing pilots to be unavailable all day.</p>		<p>BPC staff note that this information is available on the PSP Activity report.</p> <p>Daily reporting is a monumental and costly undertaking, with no identified benefit.</p> <p>BPC staff monitor factors that necessitate adjustment in authorized number of pilots (see dashboards).</p> <p>BPC staff note that Puget Sound Pilots provide detailed monthly reports (which BPC shares with PMSA) of both revenue activity (pilotage assignments) and nonrevenue activity (essential service activity such as training, upgrade trips, and meetings). BPC staff have not observed pilots failing to comply with watchstanding schedules or PSP rules concerning time off.</p>
<p>PMSA CONCLUSION/ OTHER COMMENT</p>	<p>An increase in number of pilot licenses is not reasonable without more data/proof showing pilots are working when they are scheduled and working efficiently. Any changes should be made incrementally/conservatively.</p>		<p>BPC staff support increasing the number of pilots to reduce the number of off watch assignments and observe how the system functions in a less stressed state. Information gathered will be applied each time the Number of Authorized Pilots is reconsidered.</p> <p>Increasing from 56 to 60 is a conservative increase (arguments can be made for a higher number to create wiggle room around the assignment forecast, and/or to more aggressively resolve the comp day backlog).</p>

TABLE 1 – Examples of annual assignment forecasting based on different included/excluded data & Number of pilots calculations for each example

This shows the PMSA forecast and the PSP forecast for annual assignments, with other alternative forecasts in between. All are based on past data.

The purpose here is to show the different numbers that can be arrived at, and to demonstrate that forecasting can be rather arbitrary.

Below the examples of forecasts, the required number of pilots for each forecast is calculated, based on 0% callbacks, 2.5% callbacks, and 5% callbacks.

Callback % = trailing 12 months callbacks divided by assigns. Months may have more or fewer callbacks. Pilots may work more or fewer callbacks.

<u>Year of Source Data</u>	<u>PMSA assignment forecast</u>	<u>BPC alt 1 assignment forecast</u>	<u>BPC alt 2 assignment forecast</u>	<u>BPC alt 3 assignment forecast</u>	<u>BPC alt 4 assignment forecast</u>	<u>BPC alt 5 assignment forecast</u>	<u>PSP assignment forecast</u>	THIS SECTION EXPLAINS HOW THE DIFFERENT FORECASTS WERE ARRIVED AT (OR COULD HAVE BEEN)
2017*	7240							
2018*	7321							
2019	6971	6971	6971	6971				
2020		6072						
2021		6950	6950					
2022	7483	7483	7483	7483	7483	7483		
2023	7031	7031	7031	7031	7031	7031		
2024						7778		
*note BPC requested submittals not include data prior to 2019.	7,209	6,901	7,109	7,162	7,257	7,431	7,530	
	average of last 7 years excluding covid years 2020-2021	average of last 5 years including covid years	average of last 5 years excluding 2020 (covid)	average of last 5 years excluding 2020-2021	average of last 2 years 2022 & 2023	average of last 2 years + estimated current year assumes Jan-Jun equal to Jul-Dec	total of trailing 12 months adjusted for known changes	
assigns per pilot @ 0% callbacks	123	123	123	123	123	123	123	THIS SECTION CALCULATES THE NUMBER OF PILOTS REQUIRED FOR EACH FORECAST GIVEN VARIOUS CALLBACK RATES
# pilots required, excl. prez & nffd	59	56	58	58	59	60	61	
+ 2 for prez+nffd	61	58	60	60	61	62	63	
assigns per pilot @ 2.5% callbacks	126	126	126	126	126	126	126	
# pilots required, excl. prez & nffd	57	55	56	57	58	59	60	
+ 2 for prez+nffd	59	57	58	59	60	61	62	
assigns per pilot @ 5% callbacks	129	129	129	129	129	129	129	
# pilots required, excl. prez & nffd	56	53	55	56	56	58	58	
+ 2 for prez+nffd	58	55	57	58	58	60	60	

TABLE 2 – Range of annual assignments calculations for different numbers of licenses

This table shows, for each hypothetical number of pilots, the **range** of annual assignments that can be done, assuming 129 annual assignments per pilot per year at the top of the range (5% callbacks) and 123 annual assignments per pilot per year at the bottom of the range (0% callbacks).

Aiming for the top of the range (as both submittals have done) may underestimate number of pilots and result in excessive callbacks.

Aiming for the middle of the range leaves wiggle room on both sides but would increase the number of pilots required.

Callback % = trailing 12 months callbacks divided by assigns. Months may have more or fewer callbacks. Pilots may work more or fewer callbacks.

POSSIBLE NUMBER OF AUTHORIZED PILOTS	president	1	1	1	1	1	1	1	1	1
	NFFD (average all pilots 2019-2023)	1	1	1	1	1	1	1	1	1
	current licenses (56 minus NFFD & Prez)	54	54	54	54	54	54	54	54	54
	+ additional licenses	+0	+1	+2	+3	+4	+5	+6	+7	+8
	TOTAL LICENSES	56	57	58	59	60	61	62	63	64
	working pilots (total minus NFFD & prez)	54	55	56	57	58	59	60	61	62
RANGES OF ANNUAL ASSIGNMENT CAPACITY	Max = 105% TAL (129 assigns/pilot/year)	6974	7103	7232	7362	7491	7620	7749	7878	8007
	Mid = 102.5% TAL (126 assigns/pilot/year)	6808	6934	7060	7186	7312	7438	7565	7691	7817
	Min = 100% TAL (123 assigns/pilot/year)	6642	6765	6888	7011	7134	7257	7380	7503	7626
	max-min difference (range)	332	338	344	351	357	363	369	375	381

(CIRCLED NUMBERS ARE CLOSEST TO FORECASTED NUMBERS)

PMSA annual assignment forecast is **7209**
PMSA suggested number of pilots is **58***

PSP annual assignment forecast is **7530**
PSP suggested number of pilots is **60****

Both submittals aim for the **top of the range** of assignments per pilot per year (5% callbacks).

Aiming for **middle of range** allows margin of error **above** and **below** forecast but increases number of pilots required.

*Includes additional pilot for NFFD average.

**Does not include PSP request for additional pilots to resolve comp day backlog.