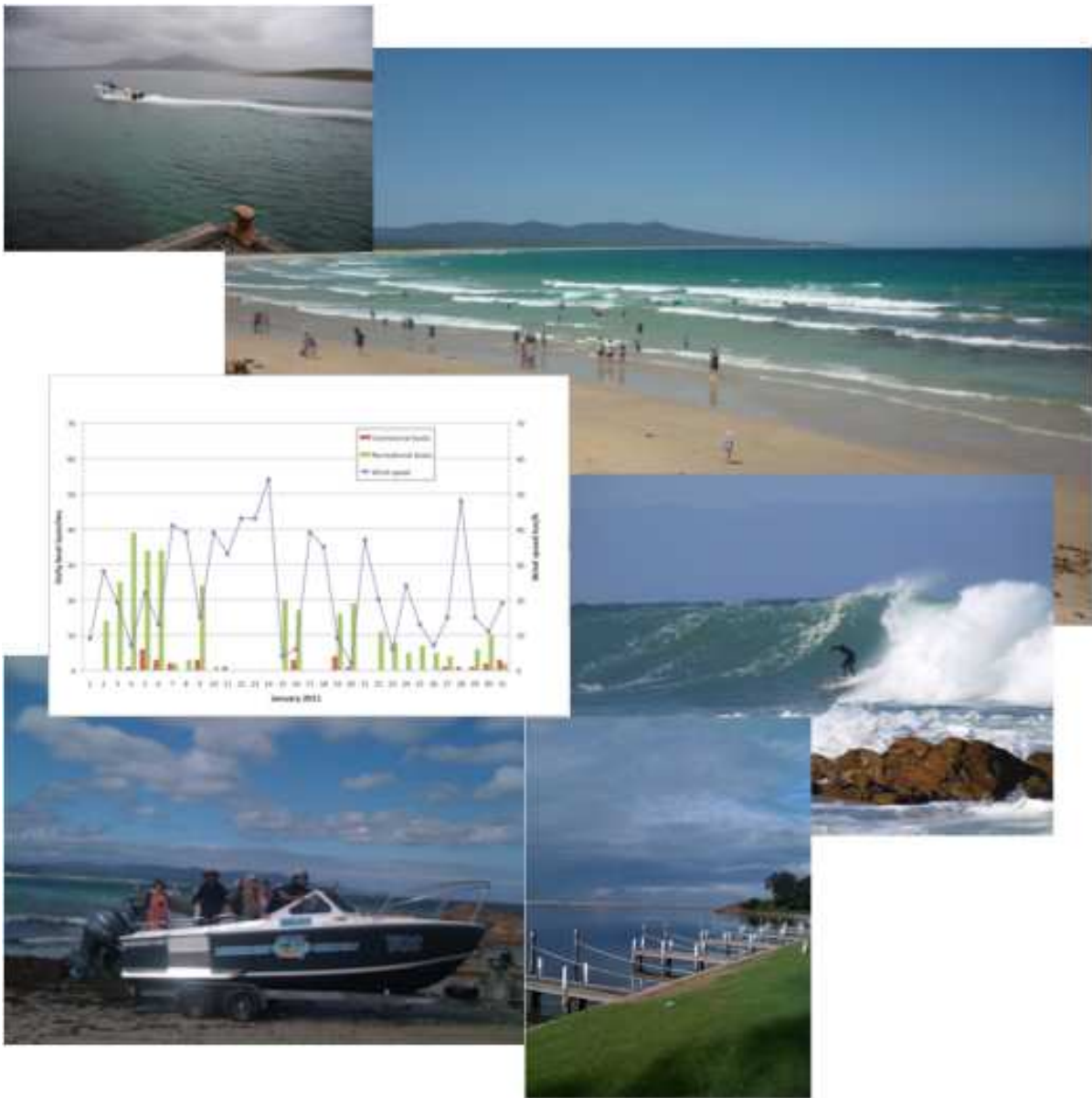


Mallacoota Inlet and Bastion Point 2010 - 2011 Seasonal Boating Observations

James Thyer and Julie Parker
First Edition February 2011
Final Edition August 2011



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Photos thanks to Anna Robert, Jade Nolan, Rosie Thyer

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Executive Summary

A breakwater development is planned by East Gippsland Shire Council (EGSC) for Mallacoota's Bastion Point. The scale of this development has been justified partly on engineering and economic grounds, on the understanding that a ramp with 90 % usability will create a significant increase in recreational demand and visitor numbers over the low season.

Mallacoota residents have been undertaking daily boat counts over the past 11 months at the current Bastion Point and Inlet (main wharf and Karbeethong jetty) boat ramps to provide more quantitative data than has been used by EGSC in its economic reports and other analyses. This report updates the February edition that presented 6 month data and gives a good view of year-round boating trends at Mallacoota.

The boat counts have been graphed against wind speed, sea and swell data to determine how these factors impact on the usability of the current Bastion Point ramp. The principle findings that relate to this period are:

- The predominant determinant of ocean usability at Bastion Point is wind-speed.
- Many low wind-speed days occurred over low season months such as August, yet demand did not exist. Traditionally there is very little recreational tourism in these months and offshore fishing is known to be poor.
- Over the observation period, boat operators used the current facility when wind speed dropped below 30 km/h. These conditions existed on 62 %, or less than two thirds of days of the study period. Two exceptions to this observation were two boating days in February 2011 when high wind conditions existed, but with a wind direction of NE or NNE.
- The proposed Option 3b breakwater is planned to have 90% usability, yet this is a narrow or possibly misleading interpretation of the factors that lead to a safe boating environment at Bastion Point. In reality safe ocean access includes; conditions at the boat ramp, entry/egress from the breakwater, sediment movement, and general ocean conditions, all factors identified by the Independent Panel.
- Boaters currently make the judgement that approximately 38 % of days - or 7 days in every 20 day period at Bastion Point - are unsuitable for boating. If a facility with 90% usability is built at Bastion Point, just 2 in 20 days would be *considered* unsuitable. This is likely to encourage boat operators to launch in poor or marginal weather conditions resulting in a much higher level of risk with the increased potential for marine casualties.
- It is likely that given the importance of wind-speed for ocean access as observed in this study, access levels will not change markedly. This would in turn question the economic basis of a four-fold increase in boating at Bastion Point, suggested in the economic feasibility study by Buchan consulting, and their assumption of near constant year-round use.
- In the study period, high access levels at the current ramp were observed during peak visitation times at Mallacoota. High usage levels of the current ramp occurred on lower wind-speed days, with one day recording 66 launches.
- Boating on the Inlet is far less seasonal than at Bastion Point, and recreational boating at Bastion Point currently makes up around 11.6 % of the total recreational boating in Mallacoota.

- Seasonality of boating demand is also exhibited at Eden's Twofold Bay, which has well protected boat ramps.
- Recreational usage of Bastion Point was measured (with two months requiring extrapolation) at 1036 launches per annum, and commercial usage patterns over the year are approximately inverse to recreational launches – recreational use over summer is high when commercial usage is minimal, and the reverse occurs over winter.

This research does not detract from the proposition that an upgrade of the current facility as proposed by Save Bastion Point Campaign¹ would bring improved and safer ocean access on days when weather conditions are suitable for recreational boating.

¹ <http://savebastionpoint.org/campaign/alternative-concept/>

Introduction

East Gippsland Shire Council (EGSC) has plans to build a breakwater and boat ramp facility known as Option 3b at Bastion Point to replace an existing boat ramp used by the commercial abalone industry and recreational fishermen. It has been claimed by EGSC that the existing ramp has 25 % usability, and that the planned facility will provide 90 % usability².

An Independent Panel of Inquiry³ examined the proposal, and recommended against the development proceeding. Factors that contributed to this recommendation were the Panel's serious concerns in relation to the safety of the proposal, and its findings that there would be only 600 new tourist launches resulting from the development, and no evidence of increased low season tourism.

In 2010 EGSC commissioned a further economic feasibility report by Buchan Consultants⁴: which claims that 90 % usability will lead to an increase of 2,990 tourism launches per annum at Bastion Point, with a monthly average throughout the year of 240 tourist recreational launches, or 353 launches including local resident launches. Most of these predictions are based on unsubstantiated generalisations and assumptions.

This report presents actual use data on boat launching over an 11 month period at Bastion Point and in Mallacoota Inlet, with the aim of establishing information on usage patterns and boat numbers subsequently generating more realistic data on which to base decisions.

Findings

Wind, sea and swell effects at Bastion Point

The monthly graphs of commercial and recreational boat counts at Bastion Point and wind-speed are shown in Figure 1 to Figure 10. Every month other than October 2010 and July 2011 were counted.

The graphs show a very strong inverse relationship between wind speed and boat numbers. As a general observation, days of wind speed exceeding 30 km/h saw few boat launches.

As shown in Table 1, over the 334 day period from 1 August 2010 to 31 July 2011 the number of days on which winds exceeded 30 km/h was 126. On a month by month basis, these were fairly evenly distributed, with all months showing 10 - 15 days that had wind speed above 30 km/h. By this measure, the worst month of May 2011 had 48 % of days that were unsuitable for recreational boating.

² Coastal Engineering Solutions 2005. EES-Coastal Processes Study. EES Volume 3.

³ Ocean Access Boat Ramp, Bastion Point, Mallacoota, Environment Effects Statement. Panel Report. October 2008. <http://savebastionpoint.org/wp-content/uploads/2010/01/Bastion+Point+EES+Inquiry+Report.pdf>

⁴ Buchan Consulting. Nov 14 2010. Bastion Point Ocean Access Boat Ramp. Economic Impact Assessment. <http://savebastionpoint.org/wp-content/uploads/2010/07/Buchan-Rev-14-Nov-2010.pdf>

Table 1: Number of days within observation period classed as being above or below 30 km/h wind speed

Month	Wind speed ≥ 30 km/h Days	Wind speed < 30 km/h Days	Month Length Days	Unusable Days %	Usable Days %
Aug 2010	10	21	31	32	68
Sep 2010	12	18	30	40	60
Oct 2010	12	19	31	39	61
Nov 2010	13	17	30	43	57
Dec 2010	10	21	31	32	68
Jan 2011	10	21	31	32	68
Feb 2011	12	16	28	43	57
Mar 2011	12	19	31	39	61
Apr 2011	9	21	30	30	70
May 2011	15	16	31	48	52
Jun 2011	11	19	30	37	63
Total	126	208	334	38	62

The number of days that would be considered generally unsuitable for boating would therefore be $126/334 = 38\%$, with the number of usable boating days being 62 %.

Data collection began on 9 August 2010 and finished on 30 June 2011. Unless otherwise noted in figure captions, counts were made on all days. Counts were made between 8.30-9.30 am, with few exceptions.

Figure 1 shows that demand for recreational boating over August was zero on all the counted days. Commercial boats confined their launches to the very low wind days with 10-20 km/h wind speed.

There were a total of four recreational launches for September 2010 (Figure 2) – these four launches occurred during the 18 Sept – 3 October school holidays. Both commercial and recreational launches were confined to low wind periods.

Recreational boating demand increased slightly over November (Figure 3), with a total of 30 boats counted. Interestingly, this was a month of very high boating use of the Inlet, which recorded 900 boating uses (983 when adjusted for missed counting days).

Recreational boating demand at Bastion Point remained low over December (Figure 4), with just 11 launches prior to Christmas Day. Demand increased dramatically on December 28, with 136 launches over the last 4 days of December. A count of 66 concurrent launches was recorded on 30 December; this number is over twice the number of 30 concurrent uses for which Option 3b is rated.

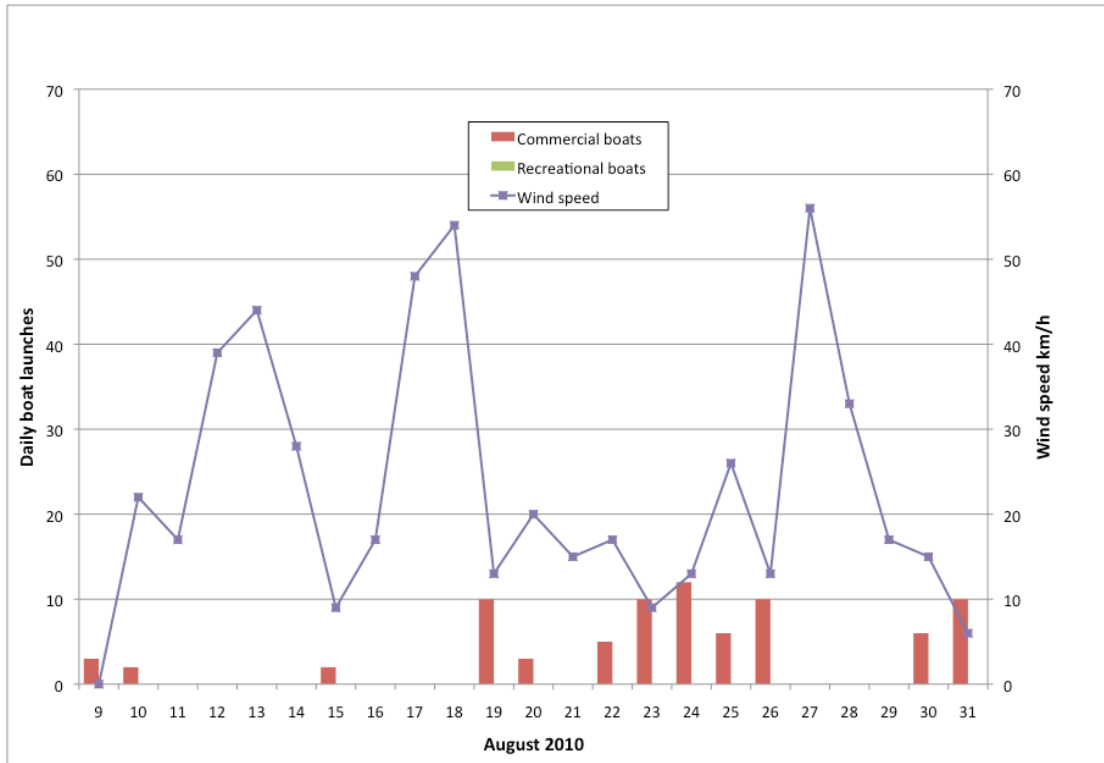


Figure 1: Wind speed km/h graphed against boat launches at Bastion Point for August 2010. Counts began on 9 August; counts were not made on 18 and 21 August. No recreational launches were observed on any count day.

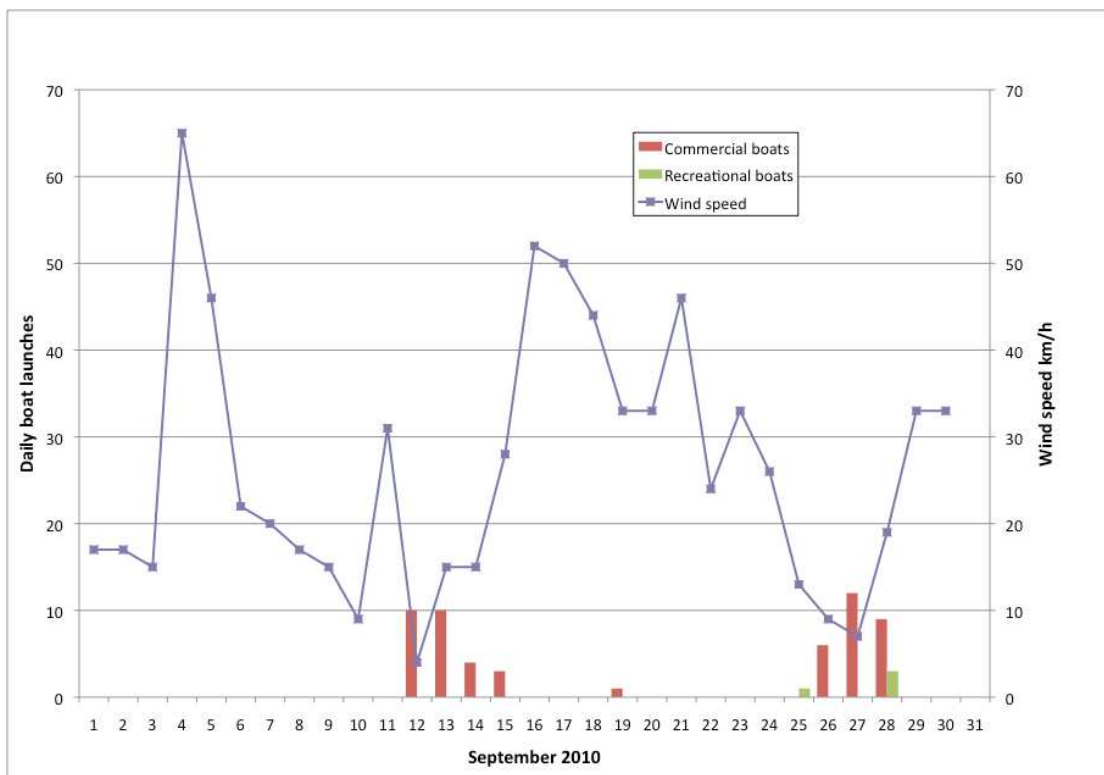


Figure 2: Wind speed km/h graphed against boat launches at Bastion Point for September 2010. Four recreational uses were observed, all during school holidays. Counts not made on 1-3, and 6-9 September.

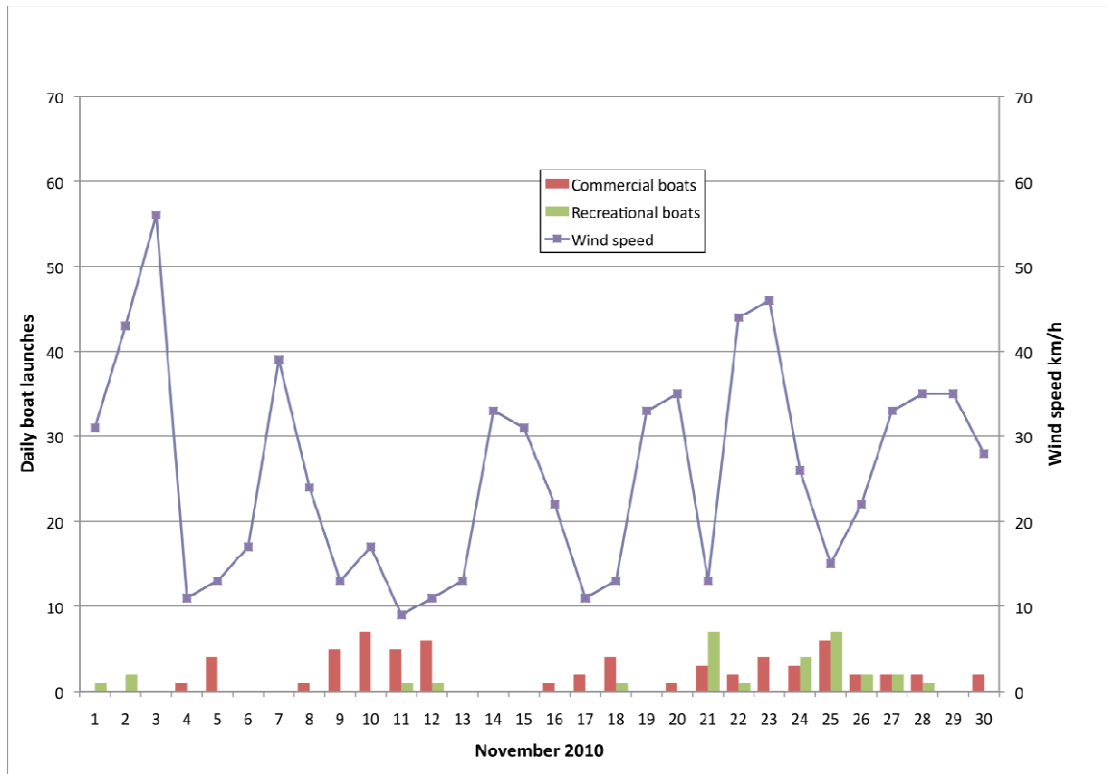


Figure 3: Wind speed km/h graphed against boat launches at Bastion Point for November 2010. Most boating activity for recreational and commercial boating was in lower wind periods, but some boating occurred on higher wind days. Counts not made on 6 and 13 November.

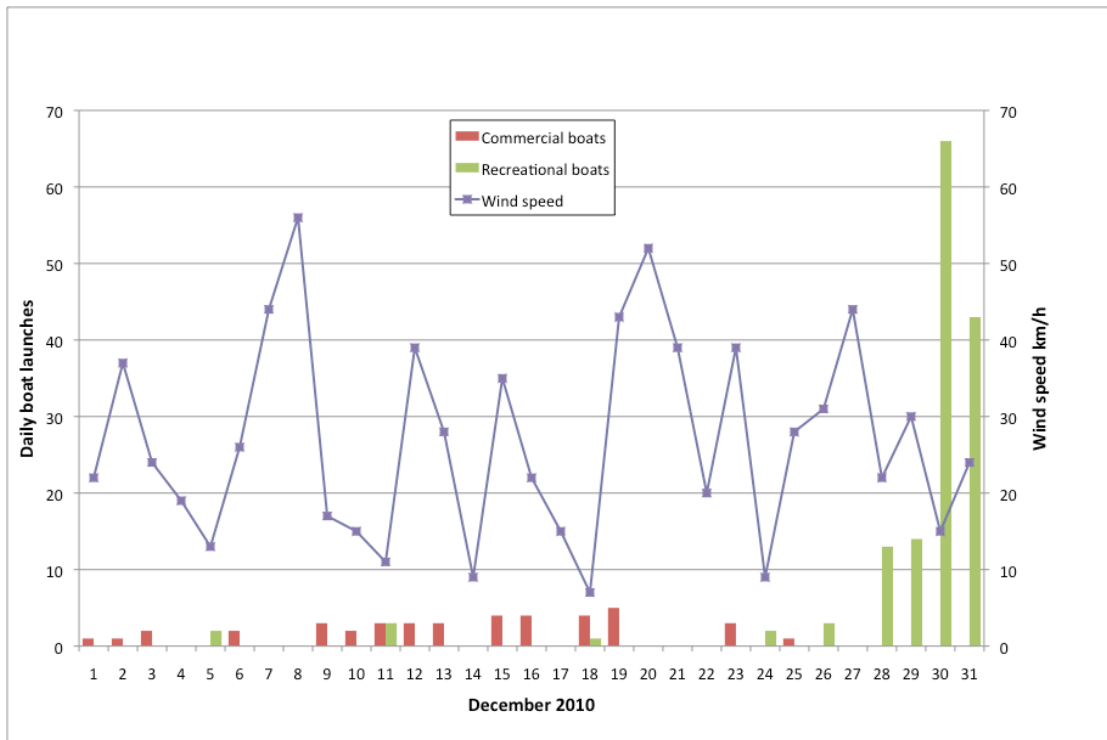


Figure 4: Wind speed km/h graphed against boat launches at Bastion Point for December 2010. Most boating activity stopped on higher wind days. Recreational boating increased dramatically on 28 December. Counts not made on 14 and 17 December.

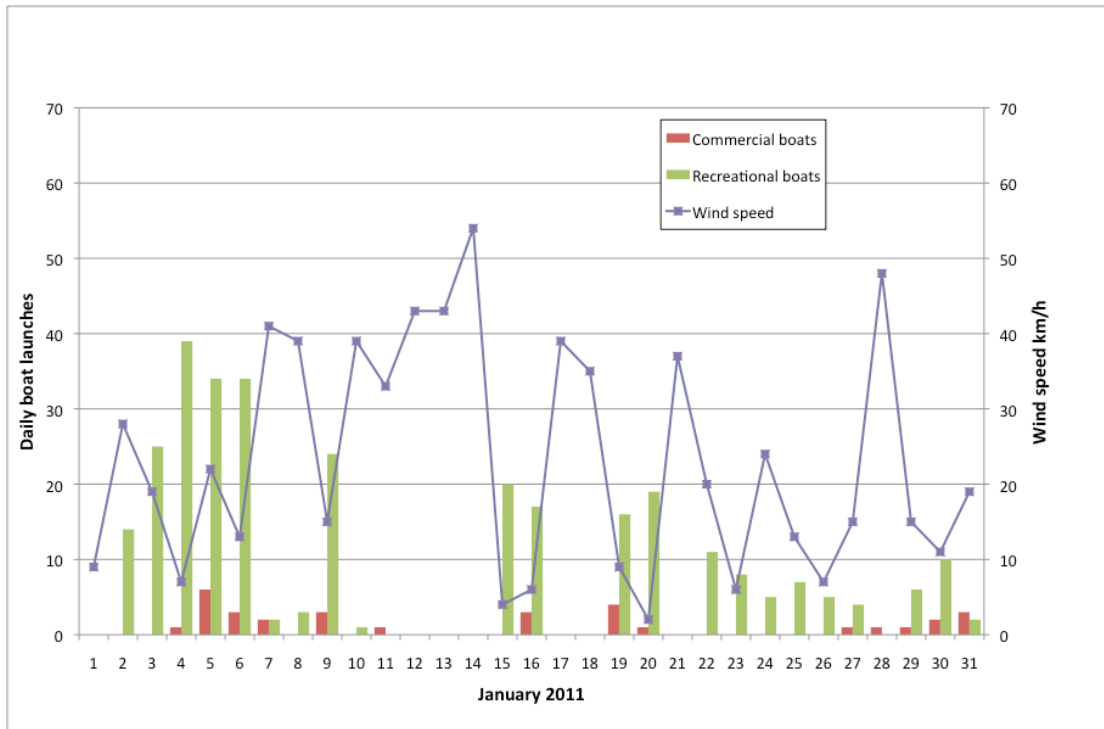


Figure 5: Wind speed km/h graphed against boat launches at Bastion Point for January 2011. Counts not made on 17 and 21 January.

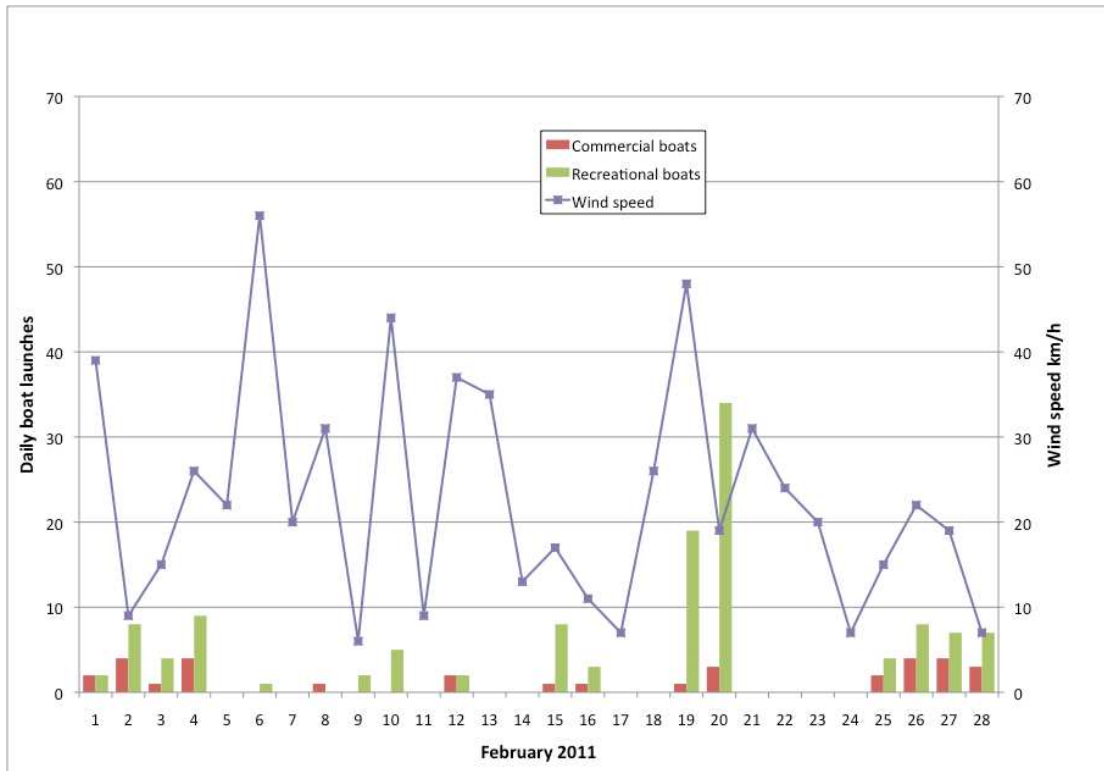


Figure 6: Wind speed km/h graphed against boat launches at Bastion Point for February 2011, showing two days which against previous trends saw boating on the high wind speed days of 10 February (44 km/h, NNE), and 19 February (48 km/h, NE). Counts not made on 14, 17, 18 and 24 February.

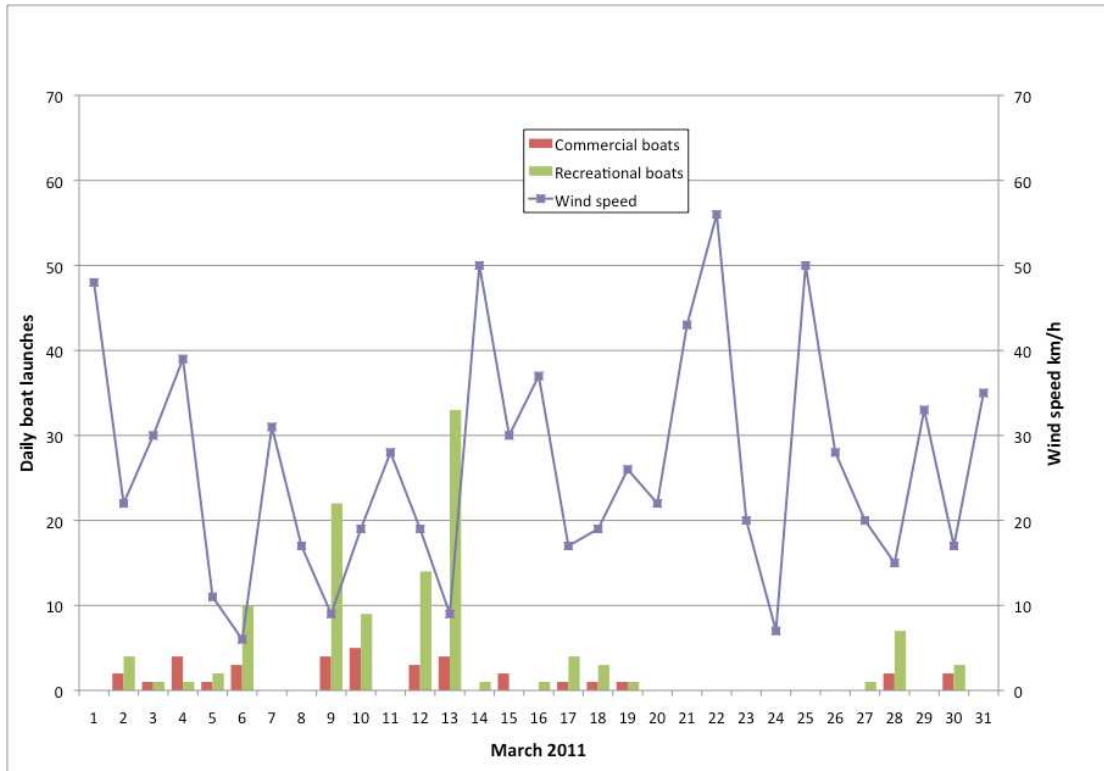


Figure 7: Wind speed km/h graphed against boat launches at Bastion Point for March 2011. Counts not made 7, 8, 29 March.

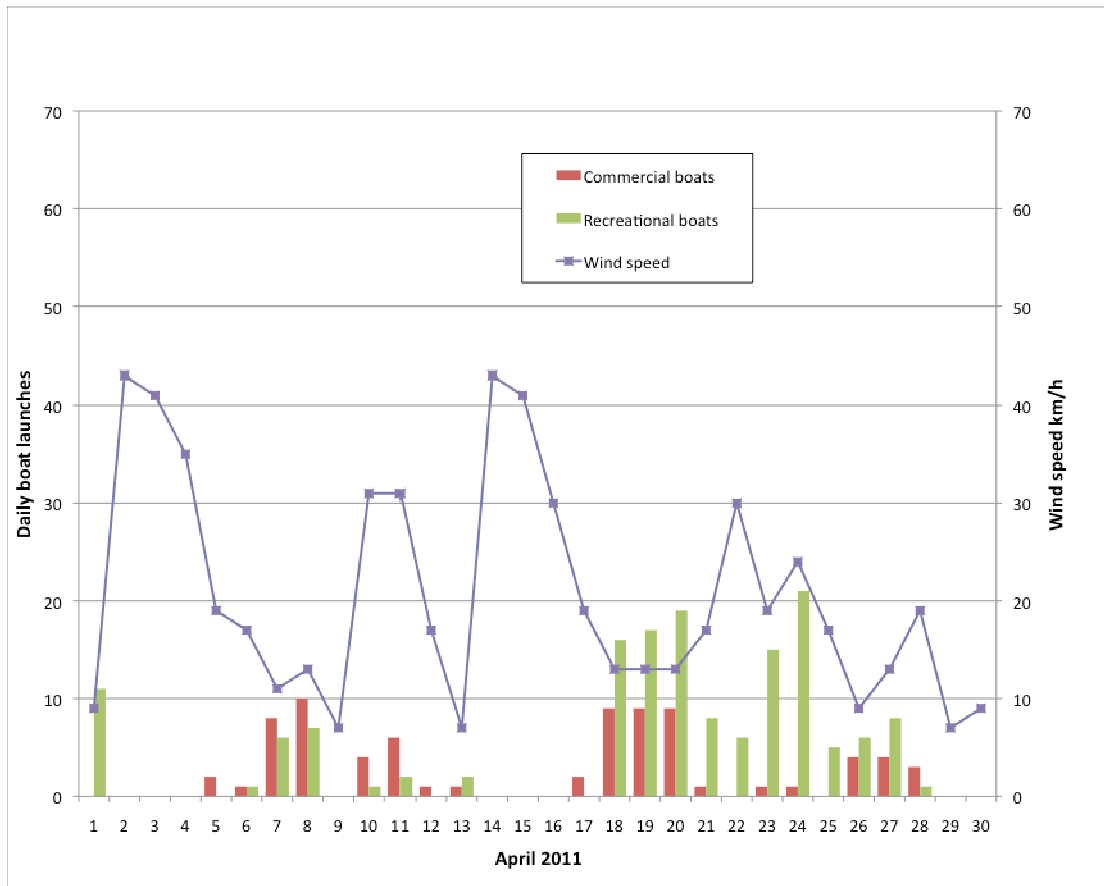


Figure 8: Wind speed km/h graphed against boat launches at Bastion Point for April 2011. Counts not made 2, 9 April.

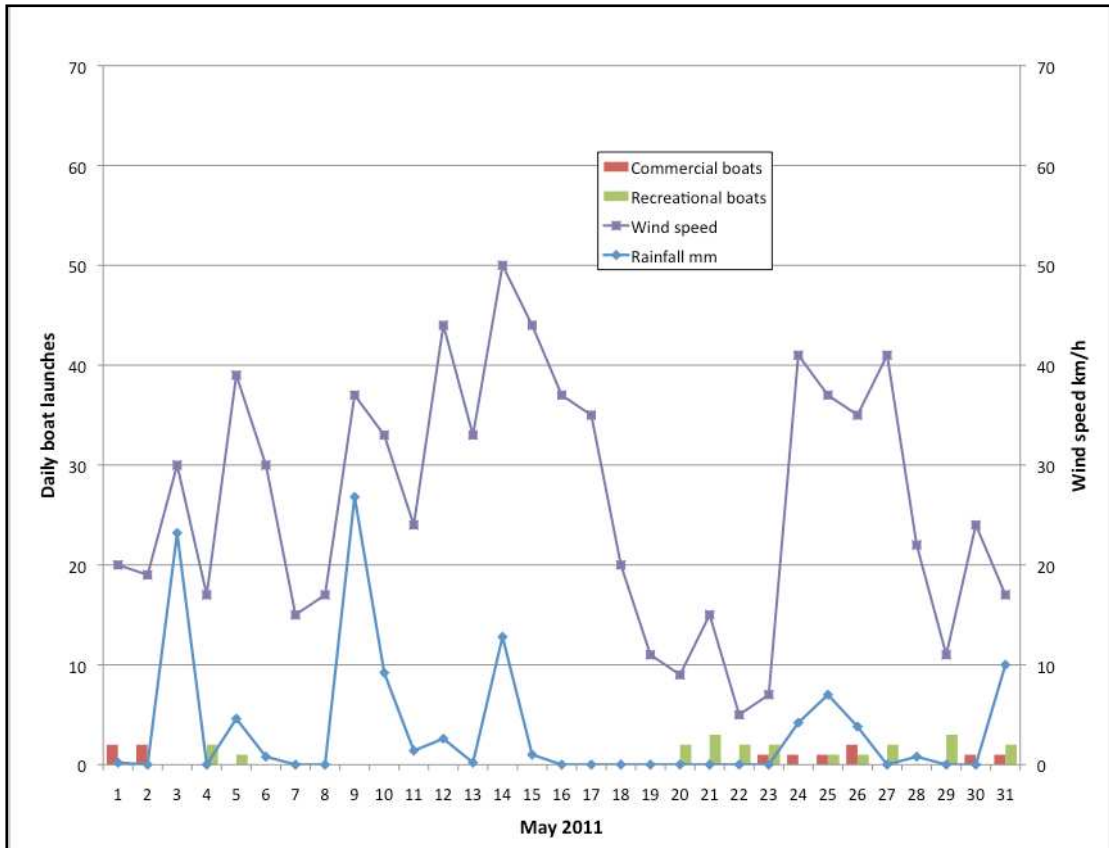


Figure 9: Wind speed and rainfall graphed against number of recreational and commercial launches for May 2011. Counts made all days.

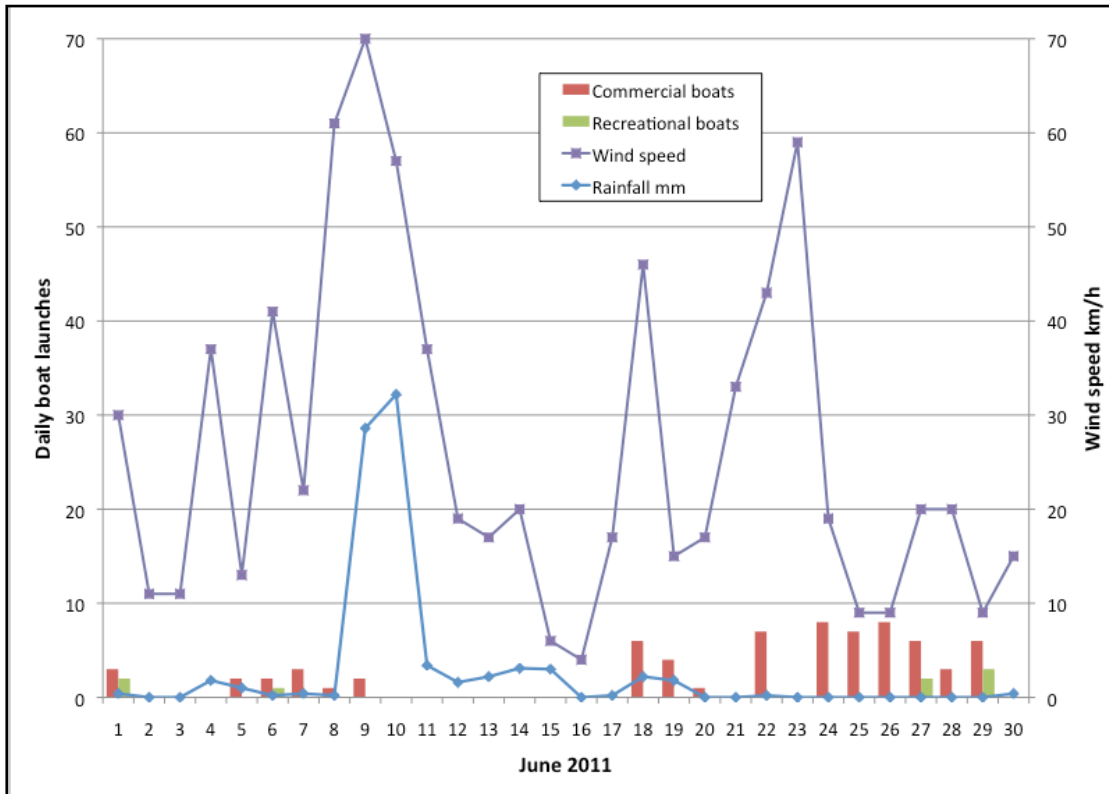


Figure 10: Wind speed and rainfall graphed against number of recreational and commercial launches for June 2011. Counts not made 2,3, 10-13 June.

January 2011 saw a pronounced concentration of boating on days of low wind (Figure 5). On high wind days such as 11 January, only the charter operation to Gabo launched twice – to drop passengers off, then again to pick them up later in the day.

Demand can be seen to begin tailing off in the last two weeks of January – even on low wind days boating launches dropped to below 10 per day. This trend was noticed in previous counts in 2005 and 2006 (See Appendix 2, Figure 24, Figure 25), where despite low wind days boating demand fell distinctly after mid January.

Photographs of sea conditions for 8 -14 January 2011 are shown in Figure 14 to Figure 19; these verify the type of conditions when boaters either chose to go to sea, or in the case of most of this period, decided against it.

Figure 16 shows conditions on 10 January, when one recreational boat used the ocean in high wind conditions, with the photo showing the relatively calm launch conditions at the ramp.

February showed boating numbers declining to almost one third that of January (Figure 6). Boat launches on the high wind speed days of 10 February (44 km/h, NNE), and 19 February (48 km/h, NE) went against previous trends. This may have been due to these offshore wind directions not generating rough seas and good fishing conditions which encouraged these extra launches.

Demand for launching over March and April showed the typical pattern occurring on low wind days. The abalone season begins on 1 April, and it is notable that on 18-20 April the combined numbers of launches of commercial and recreational boats came close to a concurrent number of 30, which is the maximum concurrent limit for the planned Option 3b facility.

Recreational use of Bastion Point over May and June 2011 was low, with a total of 21 recreational launches over May and 10 over June. Commercial abalone use was much lower than expected given this is usually the main time of year to obtain quota. Rainfall periods, as shown in the figures may have been a factor in reducing water visibility and hence commercial abalone boat launches.

To examine the possibility that seas and swell might be acting independently in determining boating demand, maximum sea and swell height observations were plotted against wind speed for December 2010 and January 2011.

For December 2010 sea height followed wind speed closely (Figure 11) – this would be expected as seas are generated by wind.

Swell did show peaks that correlated with 3 strong wind events, although with sea state categories of 0.5 – 1.25m (slight) and 1.25 - 4m (moderate/rough), swell showed as a constant maximum of 2 m for most of the month. Swell can occur without wind, although no events of high swell with low wind speed were observed in this 2 month period.

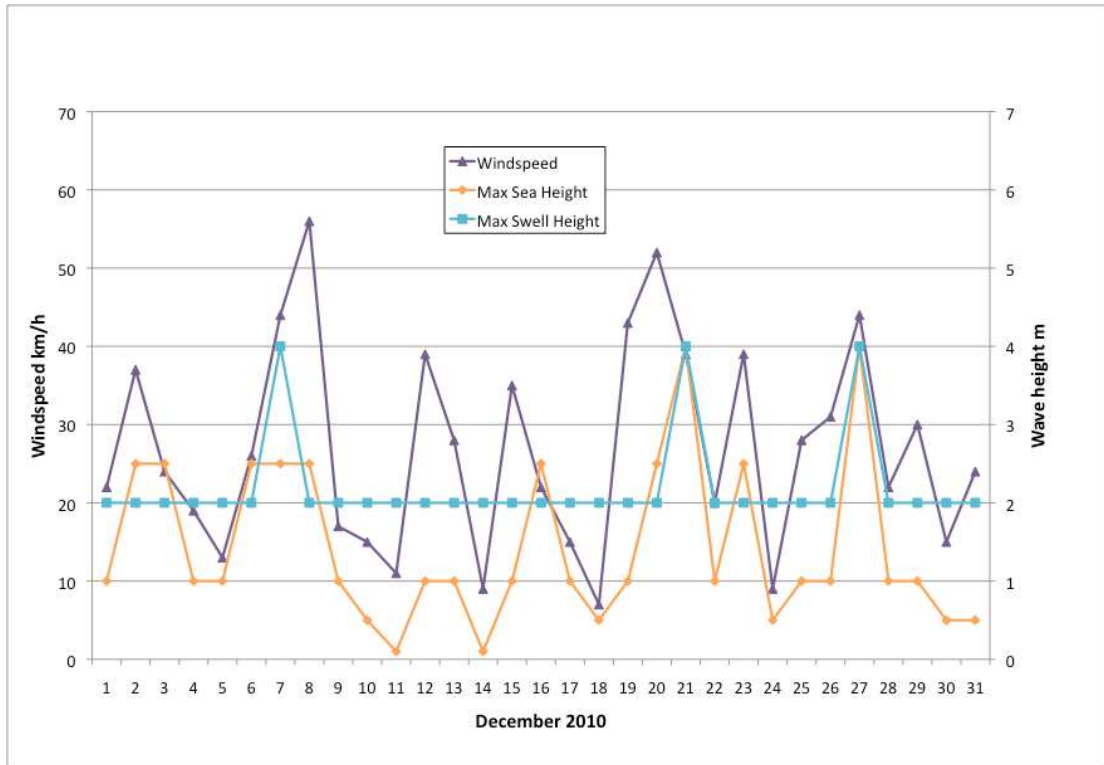


Figure 11: Wind speed versus maximum sea height and swell height for December 2010

Seas and swell both were relatively flat over January 2011 (Figure 12), with little correlation with wind speed as seen for December 2010. This could be attributed to offshore winds maintaining relatively benign conditions on inshore waters.

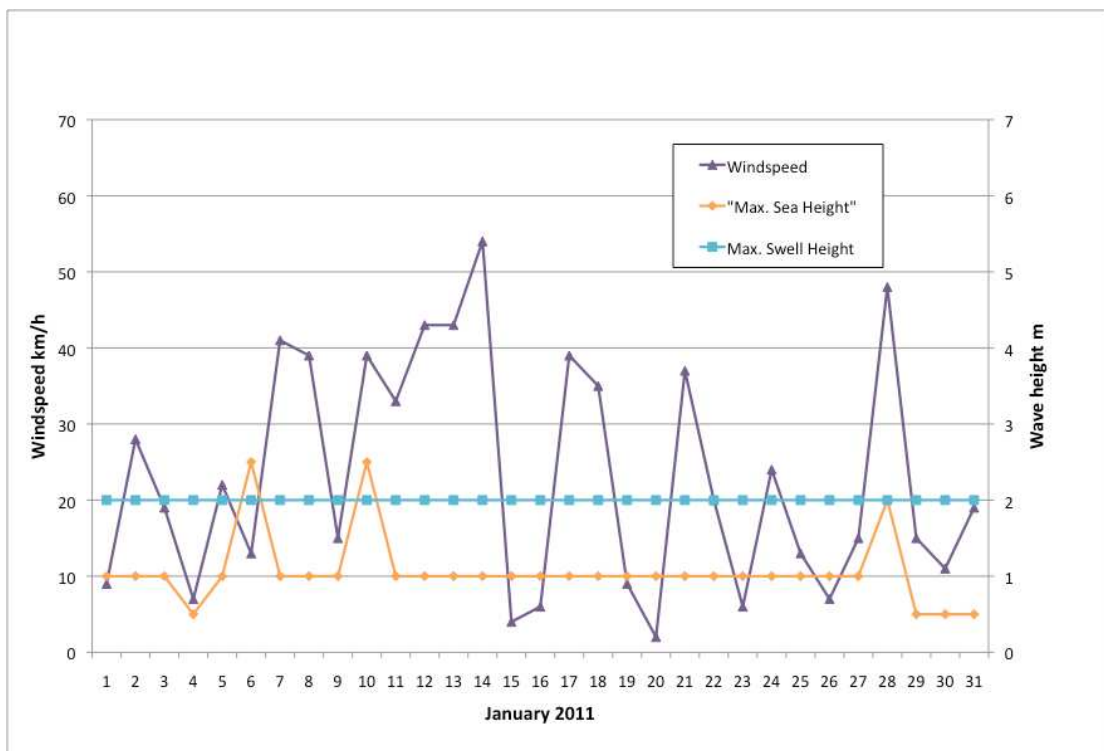


Figure 12: Wind speed versus maximum sea height and swell height for January 2011

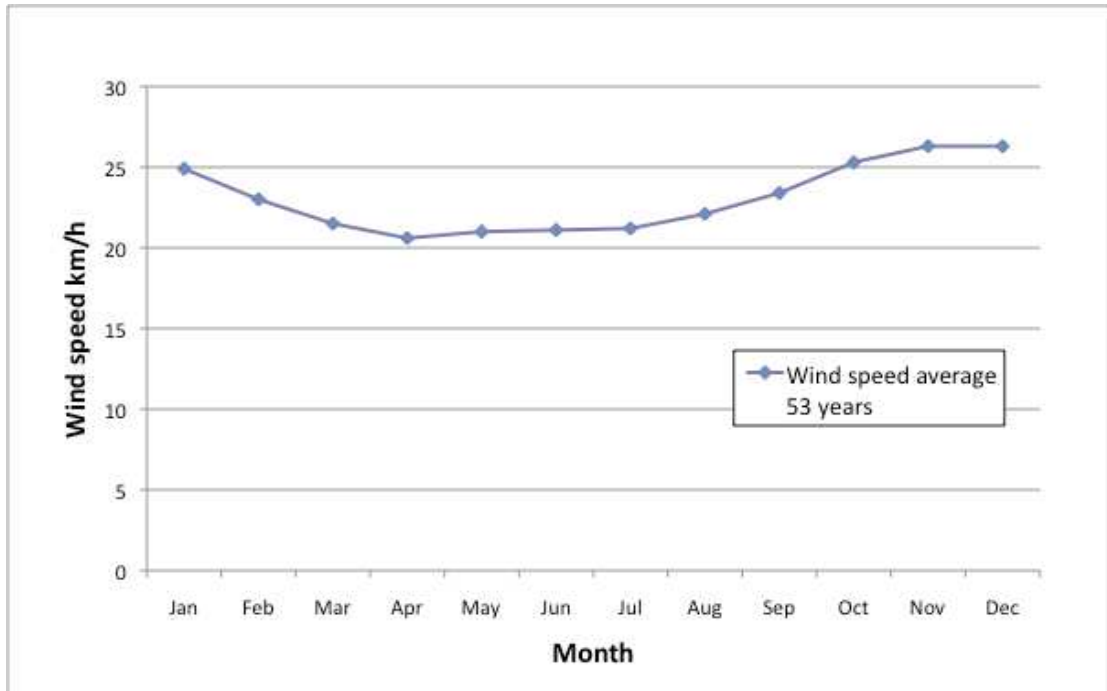


Figure 13: Average monthly wind speed for the last 53 recorded years

The records for wind speed at Gabo Island for the last 53 years are available on the Bureau of Meteorology website, and indicates that autumn and winter are the most desirable months for boating from the point of view of wind speed.



Figure 14: Boating conditions at 1.26 pm, 8 January 2011. Three recreational launches, wind speed 39 km/h, seas < 1m, swell < 2 m.



Figure 15: Boating conditions at 8.06 am, 9 January 2011. One of twenty four recreational launches, wind speed 15 km/h, seas < 1m, swell < 2 m.



Figure 16: Photo of sea conditions on 10 January 2011, 11.09.am. One boat launched at Bastion Point. Winds 39 km/h, seas < 2.5m, swell < 2m. Note relatively calm conditions at ramp on a day that boaters considered the seas unusable for boating.



Figure 17: Photo of sea conditions on 11 January 2011, 10.am. One commercial boat launched at Bastion Point - Charter to Gabo Island. Winds 33 km/h, seas < 1m, swell < 2m.



Figure 18: Photo of sea conditions on 13 January 2011, 10.am. No boats launched at Bastion Point. Winds 43 km/h, seas < 1m, swell < 2m



Figure 19: Photo of sea conditions on 14 January 2011, 10.am. No boats launched at Bastion Point. Winds 54 km/h, seas < 1m, swell < 2m

Overall Boating at Mallacoota

Boating counts on the Inlet have provided a reasonable basis for estimating boating demand in Mallacoota over the year, as there is a likely count for the tourism high (January), and the tourism low (August). The data from Table 2 is shown graphically in Figure 20, and Figure 21.

The percentage occupancy rates of accommodation were sourced from the Mallacoota Emergency and Critical Care Services (MECCS) survey⁵, as also used in the Pryor report of the Environment Effects Statement. The proportion of occupancy was used to estimate boat launches for missing months in proportion to visitation.

⁵ Mallacoota Emergency and Critical Care Services. A model for transforming rural urgent care. October 2002.

Table 2: Fitted data based on Jan, Aug, Sep, Nov, Dec data points, with bold figures having higher confidence and normal text figures being estimates fitted to occupancy data. Estimates from Buchan consulting, and actual counts from Eden's Twofold Bay are included for comparison.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Accom%	87.5	70	76	70	50	37.5	31	25	45	51	60	57.5	
Buchan	353	353	353	353	353	353	353	353	353	353	353	353	4236
Twofold	791	566	832	503	391	272	194	212	298	352	377	369	5157
BP Rec	367	131	125	162	21	10	5	0	6	20	32	157	1036
BP Com	31	35	34	73	11	86	192	118	78	70	67	44	839
Inlet Rec	1457	755	1105	963	401	208	170	142	440	740	983	496	7860

Key: Accom: Occupancy rates in MECCS survey. Buchan: Average monthly boating numbers from Buchan Report. Twofold: Boating numbers for 2006 and 2007 supplied by Royal Volunteer Coastal Patrol Eden. BP Rec: Recreational launches at Bastion Point. BP Com: Commercial launches at Bastion Point. Inlet Rec: Recreational launches on Inlet from Karbeethong and Wharf boat ramps.

To give a year-long picture of boating at Mallacoota, Table 2 required some assumptions for missing data points for two months for Bastion Point, and three months for Mallacoota Inlet.

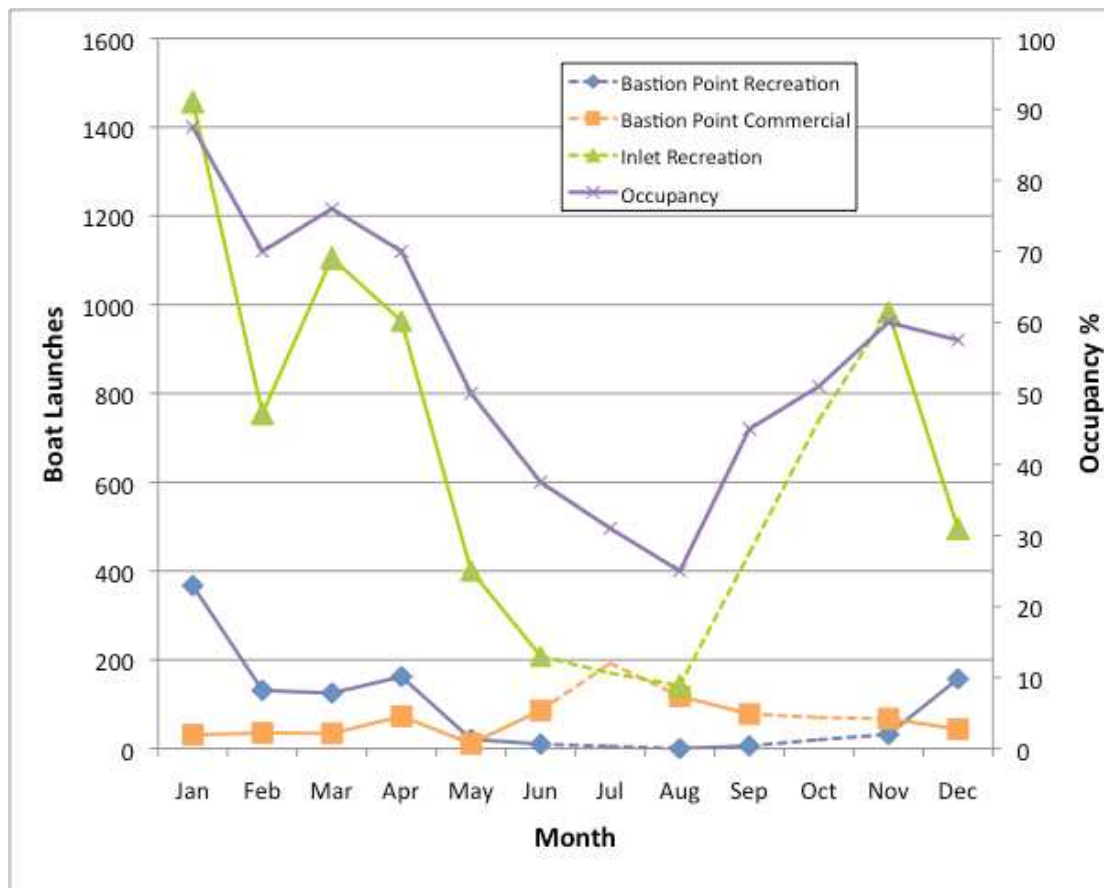


Figure 20: Actual and estimated launch numbers using comparison to occupancy data to extrapolate missing points. Actual counts are shown by markers, with solid line showing known trends, and dotted lines showing extrapolated trends.

The only data we had of previous commercial launches was supplied by Department of Primary Industries (DPI) for 2005⁶, who listed 1300 launches. To achieve this level of launches for the 2010/11 financial year, 650 launches would need to have been observed over July 2011. This would clearly be anomalous for the above graph. Instead an estimation for July 2011 was made by counting the number of days in July that had windspeed of 20 km/h or less, and estimating 12 abalone boats launched on each of these days. This gave a figure for July of 192 launches.

The lower than expected commercial launch figures may be due to the following factors:

- Poor water visibility due to rain events (as shown in figures).
- High wind.
- Divers using the Inlet entrance rather than Bastion Point to launch (a total of 8 abalone boat launches from the Inlet Wharf were recorded over June).
- Several Mallacoota divers accessing fishing grounds from the Cape Conran boat ramp over this period.
- Quota changes that allow fewer divers to collect greater tonnage.

The combination of these factors may push commercial usage back further for this calendar year there is also the possibility that commercial use is now closer to 839 than when DPI provided the figure of 1,300 in 2005 due to changes/increases in the allowable daily quota.

If counts of commercial launches at Bastion Point were continued into the current financial year, we may find that the current abalone season (beginning 1 April each year) has been pushed back by bad weather, and higher commercial launches would occur than were observed over August to December in the equivalent months of 2010.

The count of 1036 recreational launches at Bastion Point is higher than that assumed by Buchan Consulting of 750 launches. It also demonstrates that boating at Bastion Point is small compared to boating use in the Inlet. If the yearly total of 1036 current launches at Bastion Point is divided by 8,896 total recreational launches, boating at Bastion Point is 11.6 % that of total recreational boating in Mallacoota.

This figure is reduced even further if the significant number of hire boats were to be included, this would add at least a further 1,000 Inlet launches per annum. In addition, launches from Gypsy Point boat ramp are not included.

The recreational launches curves from Bastion Point and the Inlet are compared in Figure 21 with the estimate by Buchan Consulting, which makes the estimate of an average monthly launch of 353 boats, and 4236 per year. It can be seen that Buchan predict that boating at Bastion Point will be over half the 7860 annual launches estimated for the Inlet.

The graph shows that with full occupancy in January it would be unlikely that Buchan's 353 *more* launches could occur – particularly when boating numbers per day will be limited to 30 launches, as highlighted in the safety recommendations for the proposed development, Option 3b.

⁶ Department of Primary Industry. Letter to A Nixon, Mallacoota Boardriders. 1 December 2005.

Monthly boat launch figures at Eden's Twofold Bay for 2006 and 2007 were provided by the Royal Volunteer Coastal Patrol. The data and total is shown in Table 2 and shown graphically in Figure 21.

It can be seen that boating at Twofold Bay has a similar pattern to Mallacoota Inlet, but with recreational boating peaking in Twofold Bay over Easter, and not experiencing the November surge seen for Mallacoota Inlet.

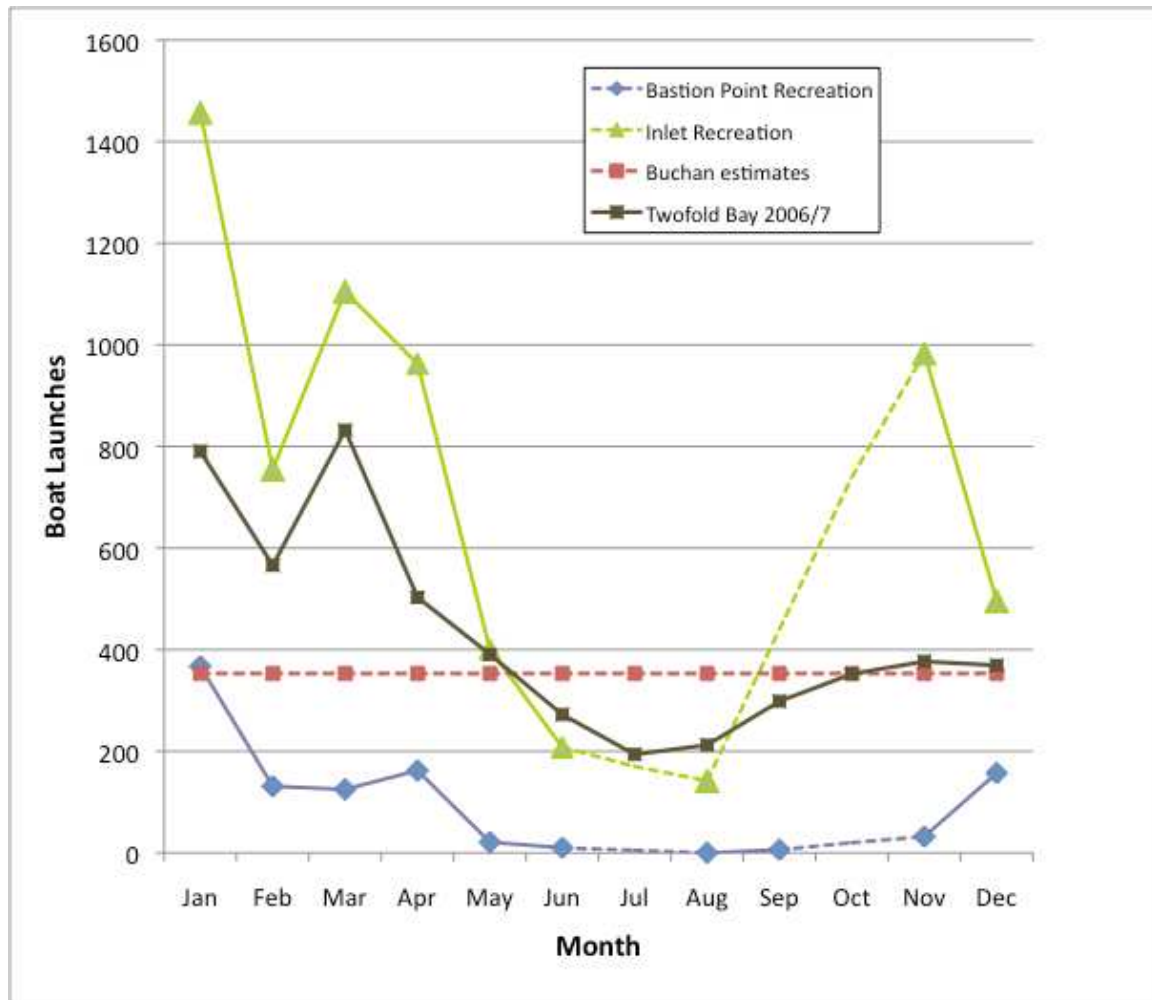


Figure 21: Recreational Inlet and Bastion Point boating compared to Buchan estimates and data from Twofold Bay. Actual counts are shown by markers, with solid line showing known trends, and dotted lines showing extrapolated trends.

Boat 'census'

To find the overall numbers of boats in Mallacoota at high season, a boat 'census' was undertaken on 6 January 2011. This was done to verify figures used in the Pryor and Buchan Reports which estimated an 18 % and 30 % 'split' between ocean and Inlet usage respectively. The methodology behind the Pryor figure⁷ is that it is assumed there are 300 tourist boats in Mallacoota on any one day in high season, and as 55 boats can be found at Bastion Point, there is $55/300 = 18\%$ use. Buchan uses a figure of 30 % without any mathematical justification.

Table 3: Boat census on 6 January 2011

Area	Total	Visitor	Local
Genoa Rd	124	30	94
Karbeethong	92	30	62
Rasmus, school	60	25	35
Terra Nova, BP	58	37	21
Mirrabooka	92	42	50
Foreshore	222	212	10
Total	648	376	272

It can be seen from Table 3 that visitor boat numbers are higher than the 300 assumed by Pryor. However if using a maximum count of 66 boats at Bastion Point (30 December 2010), and assuming there were the same number of visitor boats in town on that day, there are $66/376 = 17.5\%$ of visitor boats using Bastion Point on the peak day of the season.

If the proportion was calculated using the total number of launches at Bastion Point over January, compared to the total (Inlet + Bastion), the number would be $327/1784 = 18\%$.

If a similar ratio was calculated in August, and assuming one recreational launch was counted at Bastion Point (rather than zero), the proportion would be $1/142 = 0.7\%$, indicating that there is no reason to assume constancy of this figure over the course of the year as claimed in previous economic feasibility studies (Pryor 2005, Buchan 2010).

Other observations

A photograph of pedestrian conditions is included (Figure 22) to show the mix of swimmer-pedestrians and cars on Bastion Point Rd to the north of the main beach access. The EGSC Option 3b proposal appears to have no plans to correct this dangerous situation, where beach-goers are forced to walk on a 60 km/h road which not only carries large numbers of cars, but large vehicles/tractors towing boats.

⁷ Pryor report, page 14.



Figure 22: Photo of pedestrians forced to use road for returning to cars, 3.03 pm, 15 Jan 2011. Sea mist conditions shown.



Figure 23: Surfing at entrance to proposed breakwater, 15 May 2010

Discussion

Wind speed and Usability

The observation period for this report covered almost one year, with just two months of data missing for Bastion Point, and three months missing for Mallacoota Inlet. Data for missing months was extrapolated by using trend lines between months with actual count data. The report also references 2004/05 and 2005/06 summer data.

Given this, the central finding of this analysis of boating data is that it shows a very clear relationship between wind speed and boating numbers at Bastion Point. Recreational use drops dramatically as soon as wind speed rises above 30 km/h.

As shown in Table 1, of the months during the count period, 62 %, or less than two thirds of the days, were below a wind speed of 30 km/h. This was consistent across the months observed, ranging from a monthly usability low of 52% (May 2010) to a high of 70% (April 2011).

The data for January 2011 indicates that boats use Bastion Point on the majority of days when ocean conditions are suitable.

EGSC has resisted providing an exact definition of 'usability' of the proposed facility, but it is believed to be narrowly defined by classing any day on which the wave height is no more than 20 cm at the toe of a boat ramp (which could be protected by rock or a breakwater) as 'usable'. The Independent Panel made it clear that, safety at the boat ramp is quite different to safety on entry/egress from the breakwater, and it also may not bear much resemblance to the sea conditions.

The Panel stated (p49) it had *'given great weight to the very serious consequences of encouraging inexperienced boat users to put to sea in what they may believe to be safe conditions behind the breakwater, only to find that, at the end of it they must negotiate side-on waves that threaten to capsize them. Having made it [to] the ocean, conditions are quite likely to arise that are beyond their experience.'*

The observations from this report concur with the Panel's view, in that by assuming 90 % usability, boating will be encouraged in conditions with much higher levels of risk.

Wind speed, seas and swell

There is a possibility that sea and swell conditions act independently to limit boating launches from Bastion Point. An attempt to examine this possibility was made by graphing swell and sea conditions with wind speed in Figure 11 and Figure 12.

The sea and swell conditions for January were very constant, and did not appear to be affected by wind speed.

The December data showed three high swell days, that occurred also on high wind days (Figure 11). It is of course possible to have high swell with no wind – a situation that would have been useful in observing whether boaters were hampered in accessing the ocean in these conditions. Boaters leaving a breakwater facility in high swell would, however, encounter the conditions shown in Figure 23; this photo adds emphasis to the Panel concern on entry/egress from the proposed breakwater.

Seasonality and Demand

The demand for recreational ocean access over August 2010 was found to be non-existent, even when there were suitable low wind speed days. The waters off Bastion Point generally have lower average wind speed over autumn and winter (Figure 13). This is consistent with other ocean access facilities in southern NSW.

One of the interesting observations in this data is the dramatic increase in usage of the Bastion Point ramp over December (Figure 4). Recreational boating demand at Bastion Point remained low over December, with just 11 launches (7% of the monthly total) prior to Christmas Day, and then 136 launches (93% of the monthly total) over the last 4 days of December. This indicates that over the observation period the current ramp, given suitable sea conditions, can quickly accommodate extra demand.

There appears to be no evidence that low season demand for launching at Bastion Point is being 'held back' by lack of ocean access, or would increase in any way should launch conditions change. Indeed, the majority of low season use of the current ramp is from the commercial abalone industry which has a yearly pattern of usage that is the inverse of recreational usage.

The proposed Option 3b breakwater development has a safe boat limit of 30 concurrent users (AMCS Ltd⁸), which would have been exceeded on 6 days of the 2010/11 observed period. On one day, 30 December 2010, over half the boats using the current facility would have been turned away if the new facility had been in operation and recommended safety strategies enforced.

The data collected effectively covers a year-long period, with two months of missing data from Bastion Point, and three missing months from Mallacoota Inlet. Estimates for missing months were made by 'joining the dots' using demand parallel to the accommodation occupancy rates published in the Pryor report.

As expected, boating on the **sheltered waters of Mallacoota Inlet** is seasonal, with the August low point uses of about 142 launches being 9.7 % of the 1457 launches counted over January..

Seasonality for launches at Bastion Point was shown to be far greater than for the Inlet. The August 2010 usage (assuming one launch may have occurred) would be 1/367, or 0.3% of the January 2011 usage.

This is despite the fact that winter is indeed the lower wind period for waters around Gabo Island, as shown in a graph of 53 years of accumulated data shown in Figure Figure 13. Of note is the year round average wind speed of 21 to 26 km/h – whilst below the category of a strong wind warning (> 48 km/h) it is not necessarily conducive to open-ocean boating.

In terms of overall recreational launches that occur in Mallacoota over one year, it is estimated that boat launching at Bastion Point is 11.6 % of the overall recreational boating activity. However, if hire boats and launches from Gypsy Point boat ramp were included, this figure would drop to around 10 % of overall recreational boating.

Using just the boating counts for January, the proportion of recreational boating occurring at Bastion Point compared to overall recreational boating (Bastion + Inlet) was found to be approximately 18 % over January, giving some credence to the

⁸ <http://savebastionpoint.org/wp-content/uploads/2010/07/AMCS.pdf>

Pryor figure used in the EES, but significantly lower than the 30 % estimated by Buchan.

There is no evidence to suggest that a breakwater facility would ameliorate low winter usage. It can be seen that economic studies that assumed constant year-round ratios of usage of Bastion Point at 18% (Pryor) and 30% (Buchan) failed to acknowledge any seasonality of boating.

Commercial users do appear to be influenced by weather conditions, particularly in August and September, but less so than recreational users in November and December. The modelling of boating numbers shows that the commercial industry is the predominant user of the facility over winter months, and currently makes up slightly under half of the launches at Bastion Point.

Conclusions

The observation period for this report covered a period of nine months from one year, however including what was likely to be the highest, and lowest boating months for Mallacoota. The report also references 2004/05 and 2005/06 summer data. For these time periods, the principle findings of this analysis are:

- The predominant determinant of ocean usability at Bastion Point is wind-speed.
- Over the observation period, boats used the current facility (often at high numbers at peak tourist visitation periods) when wind speed dropped below 30 km/h. These conditions existed on approximately 62 % of days.
- The proposed Option 3b breakwater is planned to have a 90% usability, yet it was seen that this is a narrow and possibly misleading interpretation of the factors that lead to a safe boating environment at Bastion Point, which in reality includes conditions at the boat ramp, entry/egress from the breakwater, sediment movement, and general ocean conditions, all factors identified by the Independent Panel.
- Boaters currently make the judgement that approximately 38 % of days - or 7 days in every 20 day period at Bastion Point - are unsuitable for boating. If a facility with 90% usability is built at Bastion Point, just 2 in 20 days would be considered unsuitable. This is likely to encourage boat operators to launch in poor or marginal weather conditions resulting in a much higher level of risk with the increased potential for marine casualties.
- It is likely that given the importance of wind-speed observed in this study, access levels will not change markedly. This would in turn question the economic basis of a four-fold increase in boating at Bastion Point, suggested by Buchan consulting, and their assumption of near constant year-round use.
- During the study period, high access levels of the current ramp were observed during high visitation times at Mallacoota. Indeed, during this summer's peak, boats would need to have been turned away on five days, as the safe operation limit of 30 concurrent boats at the proposed new facility would have been exceeded. High usage levels of the current ramp occurred on lower wind-speed days, with one day recording 66 launches.
- Recreational boating on the Inlet is far less seasonal than at Bastion Point; August boating in the Inlet is approximately 10% that of January, whereas for Bastion Point it is less than 0.3%. Recreational boating at Bastion Point currently makes up 11.6 % of the total yearly recreational boating in Mallacoota.
- Seasonality of boating demand is also exhibited at Eden's Twofold Bay, which has well protected boat ramps.

This research does not detract from the proposition that an upgrade of the current facility as proposed by Save Bastion Point Campaign⁹ would bring improved and safer ocean access on days when weather conditions are appropriate for recreational boating.

⁹ <http://savebastionpoint.org/campaign/alternative-concept/>

Appendix 1 – Methods

Empty boat trailers at boat launch sites were counted between the hours of 9.00 am and 11.00 am on each day of counting. Volunteers counted at three sites:

- Bastion Point
- Karbeethong boat ramp
- Mallacoota Wharf.

When the data was aggregated, it was compared to monthly wind speed data obtained from the Bureau of Meteorology website¹⁰. The information sourced was for the Gabo Island weather station, which was thought to be the most accurate representation of sea conditions in the vicinity of Bastion Point.

Sea and swell data for December 2010 and January 2011 was obtained from the Bureau for this period. Sea state and swell codes were converted to wave height. Only the maximum wave height from the range was graphed – for instance a swell prediction of 2-4 m was graphed as 4 m.

Not all count sites had trailer counts for all months. For instance, during August 2010 Inlet boats were only counted at the Wharf boat ramp. It has been found subsequently that launches from Karbeethong ramp are generally at least as numerous as those at the Wharf – therefore the Wharf trailer number has been doubled for August to represent all of Inlet boat counts for that month.

To adjust monthly launch totals when counts were missing on certain days, the monthly total was calculated by using the average daily launch rate and adding the appropriate number of launches for the missing days.

No counting was made at any of the three sites for the whole month of October 2010. The count over January 2011 for the Wharf boat ramp showed low launch numbers – which was felt to not reflect boating from the town foreshore area when most of the 125 moorings at the caravan park were occupied by tourist boats – and their trips on the Inlet were not being included in daily trailer counts for the wharf. It was felt that in this case it was appropriate to multiply the daily trailer count from the Wharf boat ramp by 2.5. By way of example, if 10 trailers were counted at the wharf, a conservative assumption was made that a further 15 had launched from the 125 moorings.

Launching from the Gypsy Point boat ramp (used to access the upper reaches of the Inlet) was not included; so our counts of Inlet boating use would under-estimate total Inlet use by that amount. Hire boats were not included in the daily counts – there are 18 hire boats on the Inlet, and these would conservatively make 1,000 trips on the Inlet each year.

The boating figures for Twofold Bay were supplied for the years 2006 and 2007 by the Royal Volunteer Coast Patrol (RVCP) from Eden. The RVCP records the daily boat number after boats make contact by radio. They estimate that 65 % of boats make radio contact; hence the figures presented in this report have been adjusted upwards to reflect this (divided by 0.65).

¹⁰ <http://www.bom.gov.au/climate/dwo/IDCJDW3029.latest.shtml>

To find the overall numbers of boats in Mallacoota at high season, a boat 'census' was carried out on 6 January 2011. Ten volunteers were assigned sections of the town and boat ramps, and made the counts between 10 am and 12 noon. Boats on trailers and empty boat trailers were counted. Counters made 'educated guesses' as to whether boats were likely to be locally owned or visitors. The approximately 20 commercial abalone boats were included, and the Inlet hire boats (18) were not. It was estimated that the true total boat number may have been around 10 % higher than our count given that many residences store boats in garages or behind houses.

Raw data is available on application from coordinator@savebastionpoint.org.

Appendix 2

Boat numbers plotted against 5.am forecast of maximum wind speed in knots¹¹.

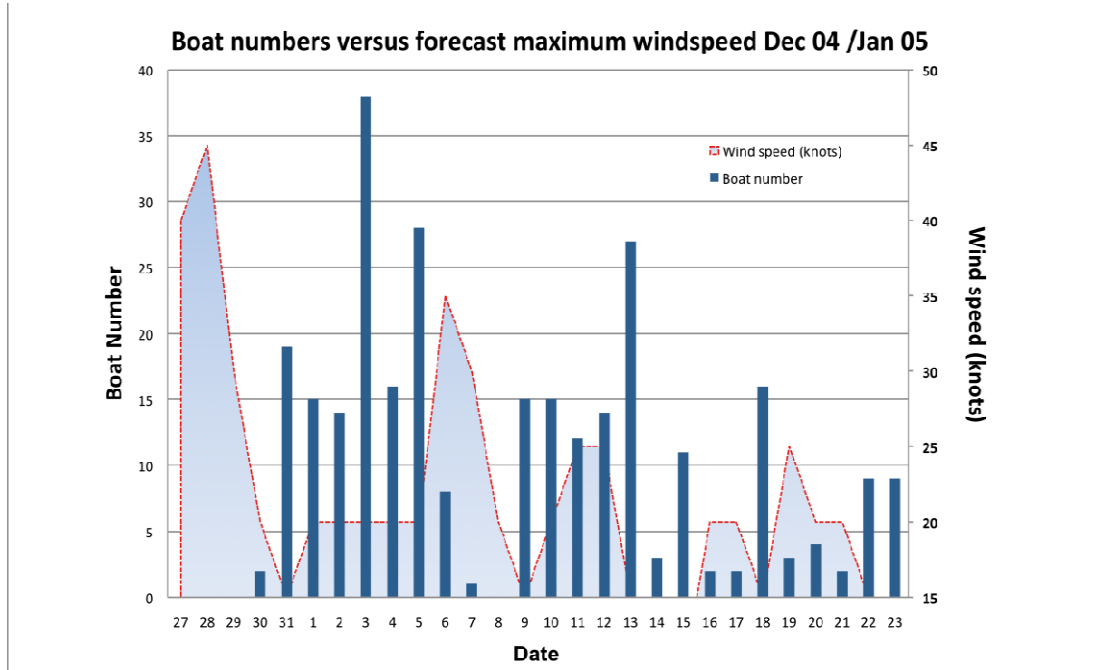


Figure 24: Boat number vs. 5.am forecast maximum wind speed for Dec 04/Jan 05

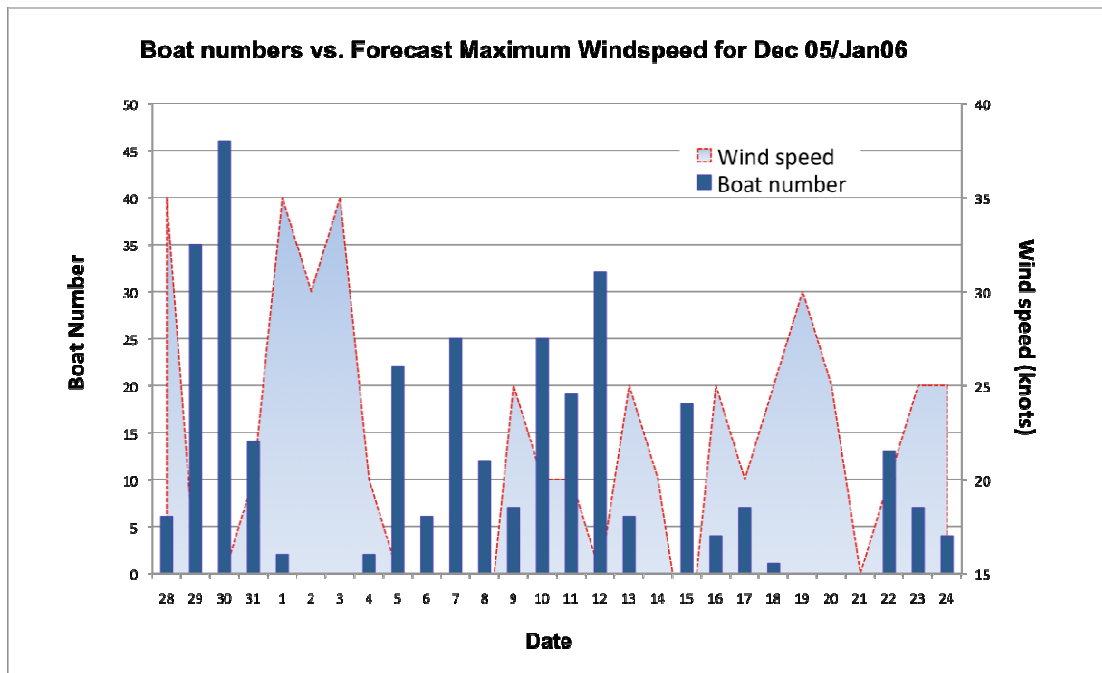


Figure 25: Boat number vs. 5.am forecast maximum wind speed for Dec 05/Jan 06

¹¹ Note that wind speed for these graphs is in knots, rather than km/h for all other graphs and uses the 5 am forecast, rather than the other graphs using the 9 am actual measurement.