REGIONAL ECONOMIC IMPACTS
of
ABEL TASMAN NATIONAL PARK
and
QUEEN CHARLOTTE TRACK

July 2005

Contents

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This kind of research can only be carried out if those in the tourism industry provide comprehensive information about their activities. I would like to thank those who assisted, particularly the kayak and water transport operators who made available detailed accounting data, for their information and time, and for their tolerance in letting their clients be interviewed. I trust that this report will lead to greater public understanding of the role of Abel Tasman National Park and Queen Charlotte Track tourism in the District economy, and that this in turn will help the industry and thus in some measure repay respondents for their assistance.

I wish to thank Ellie Butcher, Sarah Martin and Hillary Boyes for their assistance in field interviews and their willingness to put up with gales, rain and sunburn in order to talk to Park and Track users. Finally, I would like to thank the users themselves for answering questions about their visits and their spending in the regions.

SUMMARY OF THE PROJECT

The Department of Conservation (DOC) administers large areas of land in New Zealand, and expends significant sums of money on providing visitor facilities in various parks and reserves. DOC would like to understand more about the economic activity which is dependent on this land and facilities, and it has asked Butcher Partners Ltd to assess the regional economic impacts which are dependent on Abel Tasman National Park (ATNP) and on Queen Charlotte Track (QCT) in the Marlborough Sounds (the sites).

This project estimate the total economic impacts of the sites by combining available data on the number of people using the sites with surveys of regional expenditure per person using the sites and their expected changes in regional visiting patterns if the sites were not available for public use.

The maintenance and use of the conservation land gives rise to considerable economic benefits and economic and social impacts in the region, but this study examines and reports on only the economic impacts as measured by value added, household income and employment. Other economic benefits associated with consumer and producer surplus related to these lands are not addressed[1].

Project Objective

The primary objective of this project is to demonstrate how significant Abel Tasman National Park and Queen Charlotte Track are to the Tasman – Nelson and Marlborough regional economies respectively.

Sources of Impact

The direct economic impacts of the sites include the activities of DOC itself, the activities of concessionaires within the site, and expenditure by visitors to the sites[2]. Part of the visitor expenditure is on activities within the geographical confines of the sites, but a much larger proportion of their expenditure is on goods and services beyond the sites. Obvious examples include transport to the sites (by bus, water taxis and rented boats and kayaks) and accommodation adjacent to the sites but on private land. Less obvious examples are the expenditure within the region by visitors who are on their way to or from the sites.

This off-site expenditure may be far greater than the on-site expenditure, and to establish the level of off-site expenditure we surveyed visitors to find out the significance of the sites in shaping their travel itineraries. Visitors were asked about expenditure in the 24 hours prior to arriving at the site, to establish average daily expenditure in the region, expenditure at the site, expected duration of total stay at the site and in the region, and the expected duration of stay in the region if they had been unable to visit the site. Their responses were combined with data on the estimated number of total visitors to the sites and regional economic multipliers for

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1 While total benefits may be much larger than the benefits associated with the commercial impacts reported here, these wider benefits have been excluded from the analysis because of the difficulty and cost of measuring them, the error margins inherent in such measurements, and the difficulty in placing the results in any meaningful context (other activities also generate consumer and producer surplus but this is not measured or reported anywhere).

2 Concessionaire activities and part of DOC activities are funded by visitor spending, so this part of visitor expenditure is excluded to avoid double counting of impacts.

industries in which visitors spend money to estimate the total regional economic impacts associated with the site.

Method of Estimating Impacts

To estimate impacts we have:

- Gathered detailed data on DOC expenditure on the sites;
- Gathered data on concessionaires' activity and income;
- Estimated direct employment in commercial operations related directly to the sites by surveying business operators who provide services to people while they are actually on the sites or traveling from the nearest centre (Picton and Marahau or Totaranui) to some point on the sites;
- Surveyed visitors to establish daily expenditure on the sites for walkers, kayakers and Totaranui campers and multiplied this by the total number per year of each of these user groups;
- Estimated total visitor numbers on the basis of DOC data. The DOC data has been critically examined for logic and consistency, while boat operators and concessionaire data were also examined to try and generate alternative estimates of user numbers;
- Updated the Nelson-Tasman and Marlborough regional economic models from 1995/96 to 2000/01 and estimated tourism industry multipliers (including for water transport and kayakers). We have also incorporated DOC expenditure and employment data into the models to estimate regional multipliers for DOC operations themselves;
- We report all these impacts in terms of local output, value added, household incomes and employment.

RESULTS AND CONCLUSIONS

1. The direct economic activity associated with DOC operations in Abel Tasman National Park (ATNP), including Totaranui, is output of $1.2 million, employment of 15 FTEs, and value added of $1.0 million - including payment of $0.38 million in wages and salaries. For QCT the output is around $0.2 million per year, and employment is around 2.5 FTEs. Neither of these costs includes a share of regional and local office overheads. Capital expenditure is excluded from these output figures, but the figures include depreciation and capital charges, which is $100,000 on QCT and $645,000 in ATNP.

2. A review of visitor survey data already generated by DOC and updating with other data suggests that in 2004 ATNP attracted around 150,000 visitors annually, including 75,000 day visitors using the tracks, 29,000 kayakers, 10,000 boat users who did not stay overnight or use the tracks, 24,000 overnight trampers using the DOC camp sites and huts and 10,000 staying at Totaranui. There remains considerable uncertainty about the data, particularly the number of day-visitors and private boat visitors.

3. A survey was used to establish expenditure in the Park per user for each of the major user groups. Rating these expenditures up the number of people in each group suggests that the use of ATNP generates direct annual output in Park-associated businesses of $14 million per year and employment of 140 FTE[3]s. These figures are reasonably consistent with information gathered directly from those running financial operations associated with the Park.

4. The survey of users also showed that the Park generates considerable activity elsewhere in the region as a result of visitors to the Park staying longer elsewhere in the region than they otherwise would and also as a result of the multipliers associated with the visitor expenditure in the Park and elsewhere in the region. We estimate that use of Abel Tasman National Park generates $45 million of output per year in Nelson / Tasman region. Associated with this output are 370 FTE jobs and $18 million per year of value added, including $11 million per year of household income.

Summary Table 1 Direct and Total Economic Impacts of Abel Tasman National Park on the Nelson / Tasman region.

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Direct Impact in Park	14.4	144	7.0	4.4
Direct Impacts elsewhere in Tasman / Nelson	17.6	136	4.4	3.2
Flow-on Impacts	12.0	75	5.6	3.0
DOC-associated impacts	1.2	15	1.0	0.4
Total Economic Impact in Tasman/Nelson	**45**	**370**	**18**	**11**

5. The DOC data suggest that there are currently around 53,000 visitor-nights per year spent

[3] FTE is Full Time equivalent job. For example, one person working for 6 months is 0.5 FTEs.

on Queen Charlotte Track (QCT), plus an additional 12,000 visitor-days from people not staying over-night. These figures include time spent on private land and in private accommodation adjacent to the track and used as part of the track.

6. Survey data suggests that day visitors spend an average of $19 on QCT itself (many walk in from Anakiwa), as well as considerably larger sums elsewhere in the region. Overnight visitors spend $226 on the QCT itself. Rating these figures up by the number of visitors suggests that the use of QCT generates around $5.1 million in direct track-based expenditure. Associated with this is employment of 62 FTEs and value added of $2.4 million per year including $1.4 million per year of gross household income. These figures are consistent with data from QCT-associated businesses. These figures include turnover associated with kayaking around the Sounds which incorporates use of the QCT.

7. The survey of users also showed that the Track generates considerable activity elsewhere in the Picton / Sounds area as well as the Marlborough region generally. This is a result of people spending more time in the area and region than they otherwise would, and as a result of multiplier effects associated with the direct visitor spending. We estimate that use of Queen Charlotte Track generates $7.5 million of output per year in the Picton / Sounds area. Associated with this output are 83 FTE jobs and $3.5 million per year of value added, including $2.0 million per year of household income.

8. The impact in the Marlborough region is even greater. We estimate that use of Queen Track generates $9.4 million of output per year in the Marlborough Region as a whole (including Picton and the Sounds). Associated with this output are 98 FTE jobs and $4.3 million per year of value added, including $2.5 million per year of household income.

Summary Table 2 Total Impacts of Track on Expenditure, Employment and Value added in Picton / Queen Charlotte Sound and Marlborough

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Direct Impact in Picton / Sounds	5.8	72	2.7	1.6
Flow-on Impacts in Picton / Sounds	1.7	11	0.8	0.4
Total Impact in Picton / Sounds	**7.5**	**83**	**3.5**	**2.0**
Flow-on Impacts in Marlborough	1.7	12	0.7	0.4
DOC Impacts in Marlborough	0.2	3	0.1	0.1
Total Impacts in Marlborough	**9.4**	**98**	**4.3**	**2.5**

1. STUDY BACKGROUND

1.1 Public Conservation Lands and their Economic Impact

The Nelson - Marlborough Conservancy of DOC administers the Abel Tasman National Park and the Queen Charlotte Track at a cost of approximately $1.2 million and $0.2 million[4] per year respectively to administer and manage the sites and the associated concessions and facilities. These figures exclude indirect overhead costs associated with running regional and local conservancy offices. DOC wishes to know more about the economic contributions which these two sites make to the regional economies in which they operate.

1.2 Report Scope

Butcher Partners Ltd has been asked by DOC to estimate the economic impacts which are likely to be generated in the Tasman/Nelson and Marlborough regions respectively as a result of the current use of the Abel Tasman National Park and the Queen Charlotte Track. The proposal and this report specifically excludes analysis of the total benefits of the conservation estate, which will include both consumer and producer surpluses arising from the use of the lands and from the option and existence values associated with the land. This is because of the difficulty and high cost of estimating these values, the high margin of error in such estimates, and the fact that it is difficult to place such values in context because other economic activities also generate such values to a greater or lesser extent but they are not measured and so any figures related to conservation lands can only be put into a limited context. The report also does not look at the protection and species conservation values associated with the DOC lands.

This is not to deny that there are potentially very high non-commercial values associated with the conservation lands, and such values certainly need to be assessed when deciding whether or not a particular piece of land should or should not be part of the conservation estate.

1.3 Structure of the Report

This report begins with a brief summary of the data sources that have been used, and comments on the strengths and weaknesses of that data. Section 3 contains descriptions of the survey work and resulting estimates of the direct and total economic impacts in Picton and Marlborough associated with Queen Charlotte Track while section 4 describes the survey work and economic impacts in Nelson / Tasman associated with Abel Tasman National park

[4] Approximately 1.5 FTE staff + 0.5 FTE in admin + $25,000 in casual wages + 4,000 in operating costs + vehicle, boat and 4WD bike costs. Capital costs of $40,000 per year. Source: Conversation with Roy Grosse

2 DATA SOURCES AND RELIABILITY

2.1 DOC Operations

Estimates of direct economic impacts of DOC operations have been made on the basis of financial data supplied by DOC for ATNP and QCT. These data have been incorporated into economic models of Nelson/Tasman districts and Marlborough district[5].

2.2 Concessions and Water Transport

Economic impacts of concessions and water transport are based on data gathered from all operators regarding the number of employees they have and an analysis of the accounts of a number of businesses to estimate a typical relationship between the number of employees and the value of turnover. This ratio was applied to the total number of employees in the sector. A second assessment of turnover was made by analysing concession returns for the year to June 2003, and the assessed relationship between gross concessionaire revenue[6] and the concession fees paid to DOC. Again, this relationship was based on an analysis of concessionaire accounts. A comparison of these two estimates of turnover revealed a difference of less than 15 %. To preserve commercial confidentiality, the data on concessionaire activity has been combined with data on non-concession water transport in this report.

The total economic impacts of concessions are calculated by applying to these output figures the multipliers for these activities derived from the regional economic model which has been modified to incorporate concessionaire financial data.

Economic impacts of non-concession businesses related directly to use of ATNP and QCT (principally ferries, water taxis and accommodation within the sites) are based on a survey of employment in those businesses, undertaken for this project during the period September 2004 – Feb 2005, and typical average relationships between employment, value added and output as revealed by analysis of the accounts of commercial operators in the district. This information was supplemented with national average data on ratios of output per person and value added per person.

2.4 Other Visitor Spending

The impacts of other visitor spending were based on surveys of visitor average daily spending off-site, and effects of the site on their regional travel itinerary. These were then multiplied up by estimates of the number of visitors. In the case of Queen Charlotte Track the visitor numbers are based on recent data, although the track counters suffer from reliability problems. Nonetheless the visitor spending data is very consistent with data obtained from businesses dependent on the Track.

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5 Prepared by Butcher Partners Ltd for this project.

6 Note that some concessionaire activity is not subject to a concession. For example, hire of kayaks to freedom kayakers, sales of retail goods etc. etc.

The estimates of visitor numbers are much less reliable in the case of Abel Tasman National Park. Data relating to different visitor types have been collected at different times and for different purposes and hence have not been collected within a cohesive framework. There is a possibility of double counting, and some of the data sources are very old, particularly those relating to day-visitors walking the tracks. Nonetheless, the visitor expenditure data is generally within 15 per cent of the estimates based on employment and other survey data collected from businesses related to the Park.

3. IMPACTS OF QUEEN CHARLOTTE TRACK

3.1 Number of Visitors

DOC has produced estimates of the number of users of the QCT. These are based on a number of counters, and obviously the accuracy of the data depends on the counters operating correctly. An inspection of counters during July 2004 suggested that many were under-recording, which perhaps explains why the DOC estimates of Track use show a sudden decline from 34,000 in 2002/03 to 26,000 in 2003/04. For this reason, estimates of impact are based on the 2003/04 data. A potential alternative source of track user numbers is data provided by launch operators. However, two of the three operators were not prepared to make their data available.

DOC Data

A review of the DOC[7] counter statistics suggests that the day visits and over night trips total the following:

Day trips –	Starting and finishing at Anakiwa	10,000	
-	Starting and finishing at Ships Cove	2,000	
Longer Trips -	Going through Ships Cove (3 days)	10,000	
	Going through Big Bay	11,000	
	Going through Torea Bay	20,000	
	Going through Lochmara Bay		21,000
	Going through Davis Bay	22,000	

Total number of overnights: 11,000 + 20,000 + 22,000 = 53,000 visitor-nights.

Total number of day visits 2,000 + 10,000 = 12,000 visitor-days

3.2 Track User Survey

The visitor survey was undertaken over the period 4 – 19 February 2005 in generally fine weather, with the interviewers interviewing people at Picton prior to embarkation on launch trips to QCT, on launches taking users to and from the track, and at Anakiwa as people went into and emerged from the track. Discussions with boat operators and DOC staff as well as common logic suggest that the vast majority of track users either start at Anakiwa or take a boat to the start point. It was also expected that most visitors would emerge at Anakiwa, and this was consistent with survey results[8], although it was interesting to note that around 20 % of users left the track at Endeavour Inlet (see Table 1).

The QCT survey did not pick up kayakers, including those who are guided around the track. However, the economic impacts associated with guiding have been included in the economic

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[7] DOC's analysis of their track counter statistics (Roy Grosse pers. comm.):

Ships Cove – Camp Bay	15 – 20,000 per year
Number doing some part of the track	35,000 per year

[8] It could be argued that the surveying was not truly random in that expectations to some degree influenced the choice of survey sites. However, the sites chosen covered all potential entry and exit points for users other than the very few who choose to drive to the mid-point of the track.

impacts analysis, based on information from guiding companies.

Table 1 Start Points and End Points

	Starting Point	Finishing Point
Ships Cove	49 %	4 %
Resolution Bay	5 %	1%
Endeavour Resort / Furneaux Lodge	4 %	11 %
Camp Bay	0 %	0 %
Punga Cove - inc Mahana Lodge)	2 %	7 %
Bay of Many Coves	1 %	3 %
Torea Saddle	4 %	1 %
Portage	3 %	3 %
Mistletoe Bay	4 %	2 %
Davis Bay	1 %	0 %
Anakiwa	26 %	68 %
Other	1 %	1 %
	100 %	100 %

The interviews covered 276 respondents, selected randomly as being the next person to walk past the interviewer. Where respondents were part of a group, questions on expenditure were asked of the group as a whole and were then converted to a per-person basis. Hence the expenditure questions were based on a sample of 541 respondents. As is shown in Table 2, the vast majority of respondents were from overseas, and were spread over a large age range.

Table 2 Number, Age and Sex of respondents by Origin

	Within the region	Other New Zealand	Overseas	Total
Respondents	17 (6 %)	41 (15 %)	218 (79 %)	276 (100 %)
Sex Male	71 %	51 %	49 %	51 %
Female	29 %	49 %	51 %	49 %
Age < 20	0 %	0 %	3 %	2 %
20 – 39	29 %	41 %	59 %	54 %
40 - 60	24 %	34 %	28 %	29 %
> 60	47 %	24 %	10 %	14 %

Respondents included almost equal numbers of overnighters (52 %) and day users (48 %) as shown in Table 3. This is not consistent with the 67 % overnight and 33 % day track users we have estimated on the basis of the DOC data. It is not possible to say if our analysis of the DOC data is incorrect, or if our survey period is not typical of the year as a whole. This has moderate implications for the total economic impacts because of the difference in spend between day users and overnighters. Only 3 per cent of the users were cyclists, but this reflects the timing of the survey. Much of the track is closed to cyclists over the peak summer period, which is when the survey was done.

Table 3 Respondent by Category of Use

	Day visitor		Staying overnight along the track (i.e. between two days of walking)		Total	
	Guided	Non-guided	Guided	Non-guided	Number	%
Short walk (<3 hrs)	2	64	0	3	69	25
Tramping	0	55	5	132	192	71
Cycling	0	9	0	0	9	3
Total	2 1 %	128 47 %	5 2 %	135 50 %	**272** **100 %**	

3.3 Track User Expenditure

Users were asked about their total expenditure (actual or expected) while on the track and in the 24 hours prior to starting the track. The results are shown in Table 4. The average person spent $126 during the 1.46 days on the track, or an average daily spend of $86. Those staying at least one night on the track spent $226 on the track and $116 during the 24 hrs prior to going on the track, while day visitors spent only $19 on the track and $120 in the 24 hours prior to going on the track.

Table 4 Average Track User Expenditure by visitor origin and type ($ / person)

	Visitor origin			Visitor Type		Total	
	Within the region	Other New Zealand	Overseas	Day Users	Overnight Users	Survey	DOC Split*
Spend on Track							
Accommodation	17.4	44.9	57.0	0	109.9	57.8	74
Restaurants etc.	0.8	34.6	24.4	0.4	54.6	26.7	37
Entertainment	0	0.1	0.1	0	0.2	0.1	0.1
Retail	0	0.6	1.8	0.1	3.7	1.9	2.5
Miscellaneous	0	0.1	0.4	0.7	0.2	0.5	0.4
Boat / ferry	11.5	25.8	38.0	18.1	57.1	38.6	44.3
Total on Track (rounded)	**30**	**106**	**122**	**19**	**226**	**126**	**158**
Average Nights on track	**0.6**	**1.50**	**1.52**	**0**	**2.74**	**1.46**	**1.83**
	Visitor origin			Visitor Type		Total	

Table 4 continued	Visitor origin			Visitor Type		Total	
	Within the region	Day Users	Overnight Users	Day Users	Over-night Users	Survey	DOC Split*
Spend in prior 24 hours							
Accommodation	0	23.5	25.9	29.4	24.5	26.7	26.1
Travel inc. ferry	0	31.3	29.5	29.6	31.0	30.3	31.5
Restaurants etc.	0.4	17.4	16.1	15.3	17.4	16.4	16.7
Entertainment	0.6	1.1	5.8	6.6	5.4	5.9	5.7
Petrol	5.0	12.4	5.4	6.5	4.7	5.5	5.3
Retail	24.5	32.4	30.5	32.2	30.4	31.2	30.9
Miscellaneous	0.1	0.5	1.6	0.7	2.4	1.6	1.8
Total in prior 24 hours	**31**	**119**	**115**	**120**	**116**	**118**	**117**

*The DOC split shows the impacts if 67 % of users are overnighters, as we infer from the DOC track use data (as opposed to the 52 % revealed by our short term survey)

Rating up the survey of visitor expenditure by the number of visitors suggests output associated with the track is $1.9 million per year in accommodation, $2.3 million per year in water transport and guiding, and $1.0 million per year in food and other retail spending on the track. Applying typical average economic ratios[9] to these figures suggested that associated employment is 62 FTEs while value added is $2.4 million per year, including household income of $1.4 million per year in the form of wages and salaries.

Table 5 Direct Expenditure, Employment and Value added Associated with Queen Charlotte Track

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Accommodation	1.9	29	0.8	0.5
Restaurants and entertainment	0.9	13	0.3	0.2
Retail and other	0.1	1	0.05	0.02
Water transport and guiding	2.3	19	1.3	0.7
Total on Track (rounded)	**5.1**	**62**	**2.4**	**1.4**

3.4 Employment, Output and Value Added in Associated Businesses

As a check on the expenditure estimates, all businesses listed in the "Queen Charlotte Track" Brochure were contacted and asked how many people they employ and what proportion of their business is due to the Track. The responses suggest that approximately 61 FTE jobs depend directly on users of the QCT. This figure is very consistent with analysis of visitor expenditure data on the track which suggests that users of the track generate employment for 62 people. Given the potential error margins in the estimates of visitor numbers, the estimates

[9] In the case of water transport the ratios were based on surveys of relevant businesses.

of spend per visitor and the ratio between turnover and employment, we regard the small difference in employment estimates from the two sources as being remarkable. This small difference gives us some confidence that our estimates of visitor numbers and average expenditure are reliable.

3.5 Impact of Track on User Itinerary

In order to estimate the total economic impact associated with QCT, we asked users about their total time on the Track, in Picton / QC Sound and in Marlborough, and then asked them how long they would have stayed in total in Picton / QC Sound and in Marlborough if they had not been able to walk the track. Their answers (see Table 6) reveal that in the absence of the track, the average track user would stay 1.78 fewer days in the Picton / Sounds area and 1.82 fewer days in Marlborough in total. This would reduce direct expenditure per track user by $145 in Picton (including $124 on the track) and $152[10] in Marlborough as a whole.

Table 6 Effects of QCT on Visitor Itineraries

	Visitor Origin and			Visitor Type		
	Within region	Other New Zealand	Overseas	Overnight	Day Visit	Total
Effect on Stay in Picton/QC Sound						
Would change stay (%)	7 %	46 %	66 %	83 %	33 %	60 %
Ave change in stay (days)	- 0.13	- 1.44	- 1.95	- 2.90	- 0.50	- 1.78
Ave change in Exp ($/pp)	- $ 9	- $ 97	- $ 148	- $226	- $59	- $ 145
Effect on Stay in Marlborough						
Would change stay (%)	0 %	49 %	66 %	82 %	34 %	59 %
Ave change in stay(days)	0	- 1.47	- 2.03	- 2.89	- 0.57	- 1.82
Ave Change in Exp ($/pp)	$ 0	- $ 114	- $ 166	- $233	- $65	- $ 152

[10] The apparent inconsistency between the change in expenditure in Marlborough being the same as the change in expenditure in Picton but the reduction in stay in Marlborough being greater than the reduction in stay in Picton reflects the differing levels of daily expenditure for those who said they would spend less time in Picton as compared to those who said they would spend less time in Marlborough.

3.5 Impact on Visitor Spending in the Picton / Sounds Area.

If users could not use the track, then this could be compensated for by an increase in their stay elsewhere in the Picton / Sounds area. The survey of users revealed that if they could not use the track or if the track did not exist, then they would reduce their total stay in the Picton / Queen Charlotte area (including the Track) by 1.78 nights, which is 0.32 nights more than their average stay on the track of 1.46 nights[11]. The simplistic conclusion to draw is that the total reduction in direct spend in the area would be $124 on the track and a further $37 elsewhere in the Picton Sounds area[12], or a total decline of $161.

A more sophisticated analysis must take into account the fact that if on average people change their 1.46 on-track days at $85 per day for a 1.14 day off-track stay at $117 per day, then the net effect of track closure could be to actually increase expenditure in the region by $9 per user[13] as they swap more low-expenditure days on QCT for fewer high-expenditure days elsewhere in the region. However, an even more detailed analysis of the expenditure patterns and changes in stay for each respondent suggests that the track leads to an increase in Picton and Sounds direct spending of $145 per user. This is because many of the high-spending track users would otherwise not have come to the Picton / Sounds area at all and all their spending would have been lost, whereas those who would have swapped days on the track for days elsewhere in the area tended to be low spenders.

Similar analysis of surveyed spending and changes in stays in Marlborough as a whole reveal an expected increase of $0.2 million in spending in other parts of Marlborough in addition to the increase in Picton and the Sounds, so that the total direct impact on Marlborough of Queen Charlotte Track is an estimated $6.0 million per year of output, 73 jobs and $2.8 million per year of value added, including $1.7 million per year of household income (see Table 7).

Table 7 Direct Impacts of Track on Expenditure, Employment and Value added in Picton / Sound area and Marlborough District

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Impact arising from Track Spend	5.1	62	2.4	1.4
Other Impacts on Picton/Sounds	0.7	10	0.4	0.2
Direct Impact in Picton / Sounds	**5.8**	**71**	**2.7**	**1.6**
Direct Impacts elsewhere in Marlborough	**0.2**	**1**	**0.1**	**0.1**
Direct Impacts in Marlborough	**6.0**	**73**	**2.8**	**1.7**

[11] This is the average for all track users. The track users who stay overnight spend an average of 2.64 days on the track.

[12] $117 / day x 0.32 days.

[13] - 1.46 days x $85 + (1.46 – 0.32) days x $117 = $9

3.6 DOC Expenditure and Impacts

The direct economic activity associated with DOC operations in QCT is around $0.2 million of expenditure per year, and employment is around 2.5 FTEs. This excludes a share of regional and local office overheads. Capital expenditure is excluded from these output figures, but the figures include depreciation and capital charges, which is $100,000.

3.7 Multiplier Effects and Total Regional Impacts

We have calculated economic multipliers for the Marlborough District and we have assumed that half of the regional flow-on effects arising from expenditure on the Track and in Picton / Sounds businesses occur in the Picton / Sounds area with the other half occurring elsewhere in Marlborough region.

Combination of these multipliers with the direct impacts both on the walk and elsewhere in the Picton/Sounds area suggests that total employment in the Picton / Sounds area which is dependent on the track[14] could be of the order of 83 jobs, while associated annual financial impacts are estimated to be $7.5 million output, $3.5 million of value added and $2.0 million of gross household income (see Table 8).

Table 8 Total Impacts of Track on Expenditure, Employment and Value added in Picton / Queen Charlotte Sound and Marlborough

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Direct Impact in Picton / Sounds	5.8	72	2.7	1.6
Flow-on Impacts in Picton / Sounds	1.7	11	0.8	0.4
Total Impact in Picton / Sounds	**7.5**	**83**	**3.5**	**2.0**
Flow-on Impacts in Marlborough	1.7	12	0.7	0.4
DOC Impacts in Marlborough	0.2	3	0.1	0.1
Total Impacts in Marlborough	**9.4**	**98**	**4.3**	**2.5**

Inclusion of DOC expenditure effects and other flow-on impacts in Marlborough suggest that 98 jobs in Marlborough District depend on the track, while associated annual financial impacts are estimated to be $9.4 million output, $4.3 million of value added and $2.5 million of gross household income.

[14] i.e. The amount which would be lost if the track closed

4. IMPACTS OF ABEL TASMAN NATIONAL PARK

Abel Tasman National Park (ATNP) is very different to Queen Charlotte Track in that users fall into four major categories being trampers, kayakers, recreational beach users and campers at Totaranui. Virtually all accommodation for those users staying overnight is in DOC campsites and huts, although there are some private baches and commercial accommodation dotted through the Park, with the largest being at Awaroa. The majority of the kayakers are on guided trips run by concessions holders, although about one third of kayakers are believed to be private individuals, mostly using kayaks hired from concession holders. No concession fees are paid for this latter group, although they still pay hut and camping fees.

The DOC hut and camp fees provide a good guide to the number of visitor nights, while the concessionaires' fees and information provide a reasonable guide to the economic activity associated with the concessions, and also provide a check on estimates of visitor numbers generated by DOC.

4.1 Number of Visitors by Type

The research undertaken for the project was not intended to improve estimates of visitor numbers. The intention was to survey visitors to find expenditure and economic impacts per visitor for the four different visitor-types, and to apply this data to the DOC estimates of total visitors of each type. Nevertheless, given the historical nature of some of the DOC data and the considerable uncertainty related to other data, we have used our survey data to try and improve information on visitor numbers.

DOC has produced estimates of the number of users of ATNP. These are based on a mix of warden observations relating to camp and hut visitor-nights, sales of hut and camp passes, surveys of visitors, and track counters (appropriately calibrated). The data is very usefully summarised in Parr (2003)[15], although there are still some apparent inconsistencies within the data which Parr presents. Principal among these inconsistencies is the number of camper-nights (excluding Totaranui).

Camper-Nights

Parr's report provides estimates of camper-nights for 2001 which range from 74,000 per year (a summary of observations at individual sites)[16] to 63,000 (based on DOC ticket sales)[17]. A quoted figure of 44,000[18] is based on DOC staff observations, and is not comparable with the other numbers since it is acknowledged that the observations do not cover all sites or times of the year. Recent DOC revenue data suggests a figure of around 60,000 camper-nights (excluding Totaranui)[19]. We have used this figure in this report[20], and have split it between

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15 Abel Tasman National Park and Coast Visitor Statistics and Research (1984 – 2001). P 14 section 3.3.

16 *Op. cit.* Section 3.2, Table on p10.

17 *Op. cit.* Section 3.4, Table on p15.

18 *ibid*

19 19,000 hut nights @ $13 and 30,000 camp-nights @ $7 = $0.46 million for 2001 or say $0.5 million for 2003/04. This is consistent with DOC financial records showing $0.53 million in 2003/04 (plus a further $0.4 million at Totaranui), and a comparison of Parr's figures (p15) which show fewer observed visitor nights (44,236)

kayakers (9,100 overnight kayakers @ 1.86 nights = 27,900 kayaker-nights) and trampers (24,000 overnight trampers @ 2.2 nights = 52,000 tramper-nights) on the basis of our estimate of kayaker-nights. We have also used a DOC estimate of 10,000 overnight visitors to Totaranui staying an average of 4.7 nights.

Day Visitors using Tracks

Parr estimates that in 2001 there were 90,000 visitor-days of track use by day visitors (i.e. not staying overnight), but she notes that this estimate relies on very old data from 1989. It is assumed that the technique used to estimate day visitors avoided double counting of day visitor track users and overnight campers[21]. At this stage we have used Parr's reported estimates of 90,000 non-kayaking day-visitors to the Park, but we have assumed that the 15,000 day walks around Totaranui included in the 90,000 are undertaken by Totaranui campers. DOC is aware of the significant change in visitor type over the last decade and is endeavouring to produce better estimates of visitor numbers. When these are available the economic impacts reported here can be updated.

Comparison of Day walkers : Total walkers

The ratio of day walkers to total walkers is hence 79 %[22]. Given that each overnight walker spends 2.2 nights and 3.2 days in the Park, the total number of overnight-tramper days is 77,000, and hence the ratio of day walkers : overnight walkers seen on any particular section of track in a day is 54 %[23], This is rather less than that reported by DOC (2003), who noted 57 % at Stilwell bay and 69 % at Falls River, although they also noted that overnighters who had their packs carried by boat would have been classified as day trampers. Within the limits of the data, we believe these results are consistent.

Visitors using beaches only

Parr reports a 1989/90 estimate by Hill that there are 50,000 private boat users per year.[24] This estimate is 15 years old, and anecdotal evidence is that there has been a very significant decline in the number of private boat visits to the park. A more recent study[25] shows around 3,700 private boats (excluding kayaks) entering the park during the period 27 Dec – 28 Feb. If we rate this up to 7,500 per year[26] and allow, say, 4 people per private boat we get a total of

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than hut and camp ticket sales (63,621). However, the observations only cover part of the year and not all sites.

20 Parr reports 30,000 overnight visitors in 2001 (Parr: Table p14), which is consistent with her 63,000 visitor-nights (Parr: Table p16) presuming that overnighters stay an average of 2.1nights each. Our survey showed an average stay for trampers of 2.2 nights and for kayakers of 1.9 nights.

21 Our survey data suggest that double-counting may be occurring. For example, Parr's assessment is that Tinline has 45,000 day users. Given that there are 30,000 overnighters per year, of whom some 10,000 are kayakers and probably some of the trampers will not cover the Tinline section, we would expect 45,000 day users and perhaps 20,000 overnight trampers for a ratio of 30 % of users to be overnight trampers. By contrast our survey (done at the track exit beside the Park café at Marahau, but only over 2 weeks) showed a ratio of users of this section of track being 53 % overnighters.

22 90,000 : (90,000 + 24,000).

23 90,000 : (90,000 + 77,000) = 54 %.

24 See ratio of visitor types in Parr: Summary Table 3.4 on p15.

25 Abel Tasman National Park Coast Visitor Research 2002/03. Department of Conservation August 2003

26 The last two weeks of the February averaged 115 boats per week compared to 860 per week over the peak two

30,000 private boat-visits. A number of these visitors are also walkers and will have been picked up as day visitors using tracks. We have not adjusted for this proportion.

This figure of 30,000 refers to the number of private visits to the park rather than the number of private visitors, many of whom make several trips during an annual holiday to Totaranui or to Kaiteriteri. In our survey, we asked about their change in stay in the region if the park was not available to them for their stay (not for their single visit)[27]. If we allow an average of 3 visits to the park per holiday, we end up with a total of 10,000 private boat visitors per year. Commercial boat users very frequently walk a section of the track or paddle kayaks and hence are included in the other user groups. Of the 126 people we surveyed who used commercial water transport in the park, only 6 had stayed on the beach. A further 34 were day walkers, 58 were overnight trampers, 13 were campers from Totaranui and 15 were kayakers.

For the purposes of this work we have assumed that the number of visitors using beaches only is 10,000 per year. This figure could change significantly with updated data.

Kayakers

Parr estimated 18,000 kayakers based on data from 1988/89. We have used kayak concession data for 2002/03 and 2003/04 together with information gathered from kayak concessionaires and a survey of kayakers to estimate the number of kayakers and their stay profile. Our current estimate is that there are 29,000[28] kayakers using the park, of whom 9,000 stay overnight for an average 1.6 nights. These figures include both guided and private trips.

Alternative Estimate of day walkers

Using the DOC-based estimates of visitor-nights at DOC sites and our estimates of the number of kayakers and their stay profile to estimate the number of kayaker-nights, we can then allocate the balance of DOC-site nights to trampers. We also know the average stay profile of trampers and the ratio of day-visitors to overnight-visitors for both trampers and kayakers (over a limited section of track and over a two week time period). In theory this enables us to estimate the total number of tramping day-visitors (see Table 9 below), but it depends on a large number of preceding calculations and estimates, all of which have significant error margins. The estimate from this method is only 20,000 compared to the estimate of 75,000 provided by DOC. At this stage we have preferred the DOC figure. However, the discrepancy between the very dated DOC estimate and the estimate arrived at in this work is enormous, and demonstrates the importance of an updated estimation procedure by DOC.

Table 9 Abel Tasman National Park User Numbers (2004 – approximate)

	Source	Calculation figures		Visitors
Total number of kayakers	Concession data		**29,100**	29,100

weeks of Christmas – New Year. We have assumed 75 per week average over the balance of the year, including winter. Hence 43 x 75 + 3,835 = 7,060. Assume very few entries from North of the Park, since most boats from the North probably come from campers at Totaranui. Say a total of 7,500 trips per year.

[27] The estimated 7.2 day reduction in stay will apply to each boat visitor rather than each boat-visit.

[28] The 2002/03 visitor data suggests this figure may be too high. In the nine weeks of that survey 6,600 kayaks were observed to enter the park from the South. A large proportion of these would be double kayaks, so this represents possibly 10,000 kayakers. While a number of kayakers enter the Park by water taxi and the kayaking season has much longer shoulders than the boating season, this result still suggests our figure of 28,000 / year may be too high.

Kayakers who stayed overnight (ave. 1.86 nights) Kayakers on day-trips	& survey*		- 9,100 =20,000	
Visitor-nights at DOC camping grounds (excl. Totaranui) Percentage of ATNP visitor-nights spent at DOC site Implied total visitor nights in ATNP Number of kayaker-nights (9,100 * 1.86 nights each) Implied number of tramper-nights	DOC financials Survey* Calculation See above Subtraction	 87 %	60,000 69,000 - 17,000 =52,000	
Average nights per overnight tramper Implied number of overnight trampers (52,000 / 2.2)	Survey* Calculation	2.2	 24,000	 24,000
Day Walkers: Method one: Proportion of trampers who are overnight Implied total number of trampers (24,000 / 0.54) Number of day trampers (44,000 – 24,000)	 Survey* Calculation Calculation	 54 %	 44,000 20,000	 **Not used**
Day Walkers: Method Two Total users on tracks Walks in Totaranui assumed to be by overnighters Additional day-trampers	 DOC Assumption Calculation		 90,000 -15,000	 75,000
Number of Totaranui Campers	DOC		10000	10,000
Beach users only (average around 3 visits / person)	DOC survey and study est.		10,000	10,000
Total Park Users per year				148,000

4.2 Park User Survey

The visitor survey was undertaken over the period 15 – 26 November 2004, 28 Dec 2004 – 6 Jan 2005, and 4 – 19 February 2005 (the latter including only kayakers, who had been hard to find in the earlier periods because of poor weather). The interviews were held at the entrance to the Abel Tasman track (at Marahau), at launching ramps and water taxi sites at Kaiteriteri and Marahau, at kayak bases and at Totaranui.

The interviews covered a stratified sample of 600 respondents, with respondents in each strata being selected randomly as being the next person to walk past the interviewer. The strata were defined in terms of the user groups revealed by the DOC data, with those being trampers/day walkers, kayakers, beach-users only and Totaranui campers (who may also be walkers, beach-users or kayakers). Where respondents were part of a group, questions on expenditure were asked of the group as a whole and were then converted to a per-person basis. Hence the expenditure questions were based on a sample of 1,405 respondents. As is shown in Table 9 the vast majority of respondents were from overseas, and were spread over a large age range.

Table 10 Number, Age* and Sex* of respondents by Origin

	Within the region	Other New Zealand	Overseas	Total**
Respondents	21	157	422	600
Sex Male	43 %	53 %	47 %	59 %
Female	57 %	47 %	53 %	51 %
Age < 20	5 %	4 %	1 %	2 %
20 – 39	19 %	30 %	69 %	24 %
40 - 60	67 %	59 %	25 %	29 %
> 60	10 %	7 %	5 %	14 %

* Excludes most of the kayakers (for whom this data was not collected)

** N.B. The Totals are totals for our survey population, which is not the same as totals for the Park population since we deliberately stratified our sample and then surveyed sufficient people in each stratum to get reliable results for that stratum.

Table 11 Respondent by Category of Use

	Tramping		Kayaking	Beach Use Only[4]	Totaranui Camping
	Day	Overnight			
Respondents (n[1])	185	186	248	50	98
Origins[2]: Regional	3 %	0 %	0 %	6 %	11 %
Other NZ	5 %	2 %	8 %	84 %	79 %
International	92 %	98 %	92 %	10 %	10 %
Sex [3] Male	48	46	40	74	40
Female	52	54	60	26	60
Age [3] < 20	1	2	0	6	2
20 – 39	55	56	24	20	31
40 - 60	33	38	74	64	60
> 60	10	3	3	10	7
Nationality	Not estimated. Samples are too small and seasonal variations are large. Results would be very unreliable.				

[1] The sample was deliberately stratified. Hence the relative numbers in each category of use do not indicate that relative number of users of the park.

[2] Origin data is strongly affected by seasonality. Trampers were surveyed in November only.

[3] Kayakers figures based on only 72 respondents. The other 176 kayaker respondents were not asked these questions.

[4] Responses likely to be biased by who was taking boat up onto ramp, or who was staying around the camp site.

4.3 Park User Expenditure

Users were asked about their total expenditure (actual or expected) while in the Park and also in the 24 hours prior to entering the Park. The results are shown in Table 12. Expenditure in the Park ranges from $15 per person from day trampers to $185 for kayakers and $194 for Totaranui campers. Expenditure within the preceding 24 hours ranged from around $90 for trampers to $104 for beach users and $123 for Totaranui campers. The figure for Totaranui campers is not a good estimate of their typical daily expenditure because in most cases they

have stocked up with goods prior to coming to a site with limited retailing.

Table 12 Average Park User Expenditure by visitor origin and type ($ / person)

	Within the region	Other New Zealand	Overseas	Tramp		Kayak	Beach Only	Totara-nui Camper
				Over-night	Day			
Spend on Track								
Accommodation	137.1	96.8	15.9	49.1	0	4.2	15.0	172.7
Travel into park	1.7	5.3	9.3	20.5	12.3	1.8	6.2	4.0
Restaurant / café*.	1.9	11.0	2.5	6.4	0.9	0.4	7.6	16.7
Miscellaneous	0	0	0.1	0	0	0.2	0	0
Package/Concession / hire	0	71.9	157.6	19.2	2.0	179.1	1.1	0.2
Total on Track (rounded)	**141**	**185**	**185**	**95**	**15**	**185**	**30**	**194**
Average days in Park	**14.6**	**8.6**	**1.2**	**2.2**	**0.22**	**0.81**	**0.68**	**16.8**
Average nights in region	**15.3**	**13.5**	**4.9**	**6.8**	**3.4**	**4.2**	**13.0**	**17.7**
Spend in prior 24 hours								
Accommodation	0.5	19.1	37.0	24.3	27.1	28.0	33.9	3.9
Travel	0	6.0	15.3	12.0	7.5	11.8	6.0	3.6
Restaurants etc.	12.2	12.3	17.9	13.4	13.5	15.9	8.8	9.9
Entertainment	0	0.9	3.9	2.0	3.6	3.2	4.3	0.2
Petrol	21.9	27.7	10.2	7.9	12.3	10.6	19.125.	33.2
Retail	92.3	51.2	30.6	29.0	17.7	23.7	5	69.5
Miscellaneous	0.6	3.1	1.7	3.8	2.3	0.2	6.0	2.5
Total in prior 24 hours	**128**	**120**	**117**	**92**	**84**	**94**	**104**	**123**

* Includes within track environs at Awaroa etc.

4.4 Impact of Track on User Itinerary

Users were asked about their total expected stay in the Park and in Nelson/Tasman, and were then asked how long they would have stayed in total in Nelson/Tasman if they had not been able to use the Park. Their answers (see Table 13) reveal that in the absence of the Park the average day tramper would stay 0.87 fewer days in total in the region (including the Park), while the average overnight tramper or kayaker would stay 2.4 less days in the region. This would reduce direct expenditure in the region per park user by between $57 for day trampers and $563 for kayakers and $611 for those using the beach only. The figure for "beach only" users is driven by the number of boaties, mainly from Kaiteriteri, a number of whom said that if they could not use the Park then they would not have come to the region at all for their holiday.

It is interesting to note that in most cases the direct expenditure in the region as a whole is considerably greater than the expenditure in the Park. Even though some people said that if they could not use the Park they would spend more time and money elsewhere in the region, they were more than offset by the number of people who said that if they could not use the park they would not spend that time elsewhere in region and would also reduce their currently intended stay in other parts of the region. Quite a number of respondents said that in the absence of the Park they would not have come to Nelson / Tasman at all.

Table 13 Effects of ATNP on Visitor Itineraries and Spending in the Park and Region

	Visitor Origin			Visitor Type				
	Within region	Other NZ	Over -seas	Tramp		Tot-ara-nui	Kayak	Beach Only
				Day	Over Night			
Effect on Stay in Nelson / Tasman								
Would change stay (%)	10 %	65	72 %	34 %	72 %	57 %	76 %	68 %
Ave change in stay (days)	- 0.4	- 7.6	2.2	- 0.87	- 2.5	-8.7	- 2.4	- 7.2
Ave change in Direct Spend in Park ($/pp)*	- $141	-$185	-$185	- $15	-$ 95	-$194	-$185	-$ 30
Ave Change in direct spend in region($/pp)	n.a	- $75	-$267	- $57	-$142	-$115	- $224	- $611

* Including water taxis and kayaks.

4.5 Employment, Output and Value Added in Associated Businesses

All businesses running concession and water-based businesses related to the Park were contacted and asked how many people they employed. A number were also asked to provide information on the relationships between employment, value added and output. These ratios were applied to the total number of people employed to get total value added and output for these businesses.

Total expenditure by business type was also estimated by using the surveyed expenditure of visitors by type, and applying the average expenditure by visitor type to the estimated total number of visitors by visitor-type.

Table 14 Direct Expenditure, Employment and Value added Associated with Abel Tasman National Park

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Accommodation	2.0	31	0.9	0.5
Restaurants and entertainment	0.4	6	0.1	0.1
Retail and other	0.1	1	0.05	0.02
Water transport and guiding	12.0	107	6.0	3.8
Total in Park (rounded)	**14.4**	**144**	**7.0.**	**4.4**

The survey of visitor expenditure combined with estimates of Park user numbers suggests direct output within the Park of $2.0 million in accommodation, $12.0 million in water transport and kayaking, and $0.5 million in food and other retail spending on the track. Data on value added : output ratios in the relevant industries suggests that total value generated directly in the Park is around $7.0 million, of which $4.4 million is household income in the form of wages and salaries.

4.6 Impact on Visitor Spending in the Nelson / Tasman area

If users could not use the Park, then this could be compensated for by an increase in their stay elsewhere in the Nelson / Tasman region. However, the survey of users revealed that if they could not use the Park or if the Park did not exist, then they would reduce their total stay in the region significantly. Average expenditure per day inside the Park is less than when people are outside the Park, so if the Park did not exist and users spent that time elsewhere in the region then spending would increase. However, the decline in overall stay in the region more than offsets any increase in spending from transferred stays. The implication is that the existence of Abel Tasman National Park generates direct economic activity of $32 million per year in the region. This is associated with 280 jobs (Full Time Equivalent) and $11.4 million of value added, including $7.6 million of household income.

Table 15 Direct Impacts of Park Impacts on Expenditure, Employment and Value added in Nelson / Tasman region.

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Direct Impact in Park*	**14.4**	**144**	**7.0**	**4.4**
Direct Impacts elsewhere in region	**17.6**	**136**	**4.4**	**3.2**
Direct Impacts in Nelson / Tasman	**32**	**280**	**11.4**	**7.6**

* Including water transport and kayaking

4.7 DOC Expenditure Impacts

The direct economic activity associated with DOC operations in Abel Tasman National Park (ATNP), including Totaranui, is output of $1.2 million per year, employment of 15 FTEs, and value added of $1.0 million per year - including payment of $0.38 million per year in wages and salaries. These costs exclude any share of regional and local office overheads. Capital expenditure is excluded from these output figures, but the figures include depreciation and capital charges, which is $645,000 per year in ATNP.

4.8 Multiplier and Total Impacts

We have calculated economic multipliers for the Nelson / Tasman region. Combination of these multipliers with the direct impacts both in the Park and elsewhere in the Tasman / Nelson region suggests that total employment in the region which is dependent on the Park could be of the order of 370 jobs, while associated annual financial impacts are estimated to be $45 million output, $18 million of value added and $11 million of gross household income.

Table 16 Total Impacts of Park on Expenditure, Employment and Value added in Tasman / Nelson region.

	Output ($m / yr)	Employment (FTEs)	Value Added ($m / yr)	Household Income ($m / yr)
Direct Effects in region	32	280	11.4	7.6
Flow-on Impacts in region	12	75	5.6	3.0
DOC Impacts	1.2	15	1.0	0.4
Total Impacts in Nelson / Tasman (rounded)	**45**	**370**	**18**	**11**