Economic Value of Recreational Use of South Australia's National Parks and Reserves: Kangaroo Island Wilderness Trail Case Study

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Foreword

The Department for Environment and Water (DEW) is responsible for the management of the State's natural resources, ranging from policy leadership to on-ground delivery in consultation with government, industry and communities.

High-quality science and effective monitoring provides the foundation for the successful management of our environment and natural resources. This is achieved through undertaking appropriate research, investigations, assessments, monitoring and evaluation.

DEW's strong partnerships with educational and research institutions, industries, government agencies, Landscape Boards and the community ensures that there is continual capacity building across the sector, and that the best skills and expertise are used to inform decision making.

John Schutz
CHIEF EXECUTIVE
DEPARTMENT FOR ENVIRONMENT AND WATER

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Contents

Summary

The Kangaroo Island Wilderness Trail (KIWT) has significant potential to be one of Australia's great walks and a huge asset to the South Australian tourism industry that contributes to both the Kangaroo Island and the state economy. Given the opportunity after the bushfires to remodel parts of the trail and improve visitor experience, this assessment of the economic worth of the KIWT as a tourism destination aims to place an emphasis on the KIWT contribution to both the KI and state economy in the 2018-19 period—which also predates any COVID impacts to tourism, which were significant in the 2019-20 period. This will provide an initial baseline for future economic assessments and comparisons with related studies, as well as informing the potential benefits to South Australia of further investment in improving the KIWT as a tourism attraction.

Estimating the economic value of natural capital is challenging. These include use values, or benefits to visitors who interact with natural capital (e.g., National Parks), and non-use values for those that do not visit and yet derive satisfaction from the fact that the National Park exists. In this study our focus is in estimating the use values of South Australia's KIWT. However, as there is no clear market for trading environmental goods and services derived from KIWT, we base these value estimates on the tourism services, using expenditure as a proxy. It represents a verifiable estimate of some primary economic benefits of maintaining the reserve system to the state. These benefits represent a sum of primary (e.g., park entry fees) and secondary benefits to DEW (from tourism expenditure on travel costs less fees) plus the flow-on benefits to regional economies—that in aggregate contribute to the annual economic output of the economy of South Australia, measured in its Gross Regional Product (GRP).

The economic impact assessment comprised three steps. First, the number of visitors and nights spent on the KIWT was collected from the *Bookeasy* dashboard within the Department of Environment and Water (DEW). This provided a good source of data on the primary economic benefits from ticket sales, accommodation spend and other facilities' use associated with the KIWT. Second, postcode origin data for visitors was used to estimate total distances travelled and the associated number of nights/incidental expenditure that visitors incurred to get to the KIWT. This data enabled a travel-cost assessment of the secondary economic benefits of the KIWT which add value at the regional, state and national levels. Finally, both the primary and secondary economic benefits calculated resulted in a feasible range of expenditure that could be applied to the Regional Industry Structure Employment (RISE) input-output (I-O) model to estimate the initial and flow-on regional economic impacts.

We should stress that these values are both an underestimate and potential overestimate of the true use values for the KIWT. As we cannot accurately place a value on the replacement costs of National Parks, and have not incorporated any non-use values in our study, the figures provided here are an underestimate of the true total worth. Equally, as we cannot categorically state that all of the travel incurred was associated only with a visit to the KIWT the values reported may offer an overestimate of the true use significance to visitors. That said, we are at least able to provide a baseline—not final—estimate for DEW for the purposes of ongoing planning and management purposes.

The construction of the KIWT was originally budgeted at $6.2 million over three years (2014-15 to 2016-17). The final cost was $7.01 million, which produced construction-based stimulus benefits for the Kangaroo Island and Fleurieu region over that same timeframe. Across those three years state GRP was positively impacted by the initial and flow-on benefits worth $3.25 million, of which 65% was the initial impact. Further, this construction activity supported around 31 full-time equivalent (FTE) jobs in the region. As such, the investment in constructing the KIWT could be considered a viable public investment as evidenced by the additional returns outlined below.

In total 2,063 visitors walked the KIWT in 2018-19, generating a primary revenue stream from KIWT fees and charges of $237,958; of which $36,180 stemmed from Commercial Tour Operator fees for portage at the start/end of the trail. This created initial and flow-on tourism-based impacts in the Kangaroo Island and Fleurieu regional economy, resulting in an increase to GRP of $122,136 in 2018-19, of which 75% was the initial impact from the stimulus. The remaining 25% comprised flow-on effects to other local industries. As a result, 1.34 FTE jobs were supported—most likely local given the isolated nature of the Kangaroo Island population and a tendency to have improved employment prospects for locals.

By contrast the regional secondary economic stimulus from travel costs to visit the KIWT in 2018-19 ($1.05 million) resulted in initial and flow-on impacts to GRP of $539,859, again where 75% is the initial impact from the stimulus. The larger secondary stimulus supported 5.91 FTE, or a roughly 5:1 ratio[1] of primary to secondary impact. Given these estimates are based on past observations caution is advised with respect to treating these figures as anything other than a useful baseline. These estimates, however, illustrate the significant contribution that assets within the conservation reserve system provide to regional economies, even though the share of total benefits flowing through DEW revenue collection may not be substantial. The benefits to SA citizens and broader Australians from the environmental management effort of DEW would be significantly large, and this assessment is not for that purpose.

The secondary economic value associated with the KIWT was estimated to be five times that of the primary economic value. This is not unexpected as a large range of goods and services are consumed by nature-based tourists, incidental to their use of the KIWT. The salient point is that approximately 87% of the economic impact from nature-based tourism does not pass through DEW cash registers but is felt across the regional economy in a range of sectors, primarily accommodation and food and retail trade. It is therefore important to continue investigations of these contributions to better understand their relevance to planning and decision-making.

This also highlights the significant value of the information that DEW already holds in its *Bookeasy* database—and the additional analytical power and administrative insights that could result from its improvement over time, and augmentation with other data sources.

[1] Note these ratios are not easily compared to one another. For example, the ratio of primary to secondary economic impacts at state level for South Australia was 1:23 highlighting the larger scale of impacts incurred, differences between the regional models and their assumptions, and differences between the main drivers of secondary impacts; that is, travel costs. As such, we should expect to see differences across these ratios.

1 Background

The Kangaroo Island Wilderness Trail (KIWT) is a 61-kilometer, five-day walking or hiking trek that offers visitors a unique nature-based experience. The KIWT offer access to some of South Australia's most rugged and spectacular landscapes. In 2019-20 the KIWT was severely damaged by bushfires and, while still open to the public, all tours are now conducted by licensed operators to ensure that the recovering landscape is not further damaged. As such, bookings are essential and numbers can be limited. This has the capacity to reduce total income from the attraction, but achieves an important balance between protecting natural capital and supporting recreational activity relying on access to those assets.

Given the length of the trek, walkers are expected to be largely self-sufficient. However, the KIWT does offer a range of amenities along the way such as cooking sites, basic shelters, access to toilets and potable water, set lighting periods overnight and portage services (via a third-party operator) for those who don't want to carry all their gear with them.

The economic value and contribution from South Australia's component of the conservation reserve system (i.e. National Parks system) to the state/regional economy is an important input to planning for the Department for Environment and Water (DEW). The conservation reserve scheme is an important part of the efforts to conserve South Australia's natural and biological heritage and to make it accessible to people for enjoyment. How they contribute to economic activity, by way of both use (such as tourism and recreation) and non-use (including education and knowledge) value, is not readily observable.

The primary (e.g., park entry fees) and secondary (payments from tourism expenditure on travel costs less fees) economic benefits to DEW of recreational and tourism use of South Australia's conservation reserve system and site attractions need to be better understood to evaluate state and regional planning and investment into the reserve system and the commercial operations that the system supports. Hence DEW is interested in a holistic evaluation of the economic contribution of the reserve system to the state's economy. To undertake a holistic evaluation of the use values of the reserve system or assets within the system, both the primary and secondary economic flows from different use categories need to be understood.

Primary economic impacts arise from visitor spending on campsite rentals, accommodation, park entry fees, and retail sales at kiosks etc.—that is, any costs that are incurred by a visitor where the revenue is collected by the National Park service and its operations (these can be thought of as 'in the park' expenditures). Secondary economic benefits relate to expenditure that a visitor incurs associated with travel to and from the park site to enjoy its amenities (these can be thought of as 'outside the park' expenditures). Secondary economic benefits associated with park use may arise from incidental expenses, which contributes to the economy of South Australia, but can be particularly beneficial to the region in which the park is located, as they increase total economic activity. Such secondary expenditures include vehicle costs (i.e., fuel, vehicle wear and tear), the cost of labour, accommodation along the way depending on the travel time involved, and incidental meals or other expenditure. Estimates of secondary economic expenditure can be obtained from previous travel cost studies (for example, Heagney et al., 2019). The Australian Tax Office (ATO) travel cost determinations for various states and regional cities could also provide a basis to estimate such travel costs, along with ATO determinations of costs per travel kilometre.

Both primary and secondary economic expenditure contributes an additional amount to regional, state and national economies through multipliers. Expenditure associated with one action (e.g. meal costs) can have a flow-on effect in that community to 'multiply' the economic benefits (e.g. the owner of the

cafe buys goods and services within the community and 'multiplies' the economic benefits from the initial expenditure). Multipliers can be used to estimate the total economic contribution from activities such as tourism to other sectors of the economy (e.g., retail trade, food services, manufacturing, accommodation etc.) where products from one industry (e.g., labour in regional centres) is used to produce products or outputs (e.g., regional attractions). It is the interaction between these inputs/outputs—then scaled across other affected sectors—which enables some estimation of the larger economic benefit of an activity in the economy.

As a high quality and popular visitor attraction, the Kangaroo Island Wilderness Trail (KIWT, Figure 1) has considerable potential to add value to the regional and state economy. However, that contribution has been curtailed following the devastation and loss of both natural and constructed capital that occurred during the 2019-20 bushfires. This study aims to provide a baseline of the KIWT economic contribution in 2018-19 (pre-fires) to better understand the annual economic contribution of the KIWT. Hence, it could provide an indirect assessment of the economic impact of the bushfires on tourism related activities. The baseline provides economic information for future assessment of decisions about improving amenities or facilities associated with the trails.

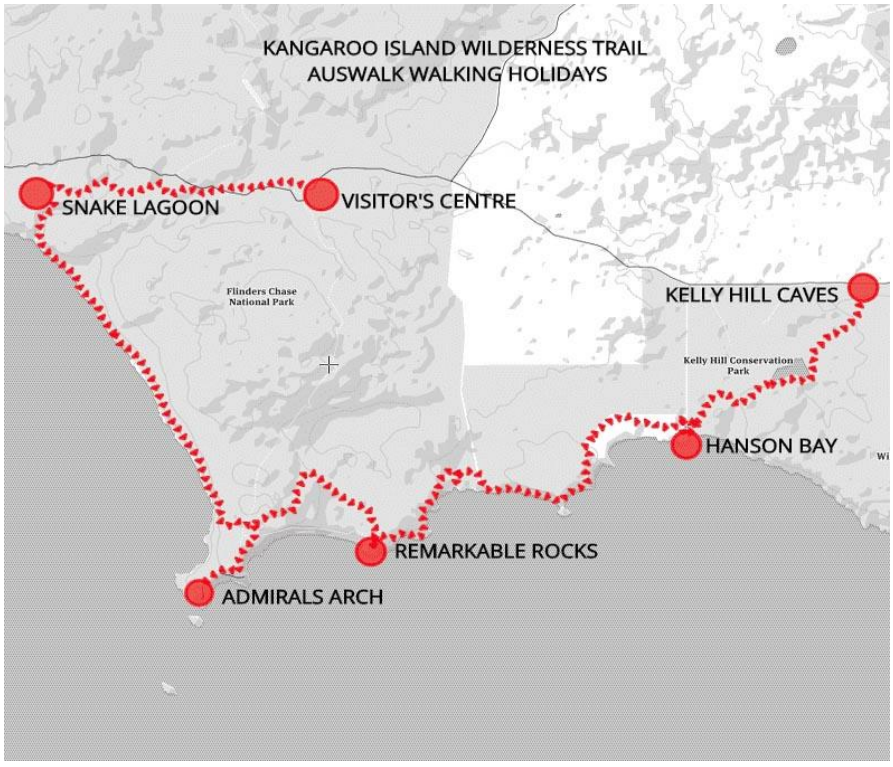


Figure 1: Map of the KIWT (Auswalk, 2020)

Estimating the value of natural capital is challenging and often controversial. We therefore stress that these value estimates are both an underestimate and potential overestimate of the true use values for the KIWT. As we cannot accurately place a value on the replacement costs of National Parks, and have not incorporated any non-use values in our study, the figures provided here are an underestimate of the true total worth. Equally, as we cannot categorically state that all of the travel incurred was associated only with a visit to the KIWT, the values reported may represent an overestimate of the true use significance to visitors. That said, we are at least able to provide a verifiable baseline—not a final—estimate for DEW through the analysis conducted in this study.

2 Methods, data and inputs

As detailed in DEW (2018), the objective of a regional economic impact study is to quantify the additional expenditure that results from an event, program or policy and then translate this to an initial and flow-on economic impact on that regional economy (measured as Gross Regional Product or GRP), and local jobs in terms of supported full-time equivalent employees (FTE). The process whereby additional expenditure is translated into economic impact is presented in Figure 2. The size of the economic impact depends on the size of the stimulus and also how closely the sectors that are impacted are integrated with the regional economy. The more closely a sector is integrated within the local economy, the lower the leakage and the higher the flow-on impacts.

Some important initial assumptions need to be taken into account when using this approach to valuation. Firstly, we need to factor in any significant changes to the economy. For 2018-19, there was a broad reduction of -0.4% in multifactor productivity impact (Productivity Commission, 2020) which can be accounted for in the model. Secondly, Kangaroo Island's population is very tightly associated with the regional economy given its isolation from the mainland and tendency toward self-containment, which creates a relatively low unemployment rate of 3.8% (ABS, 2020). This tight association also results in a *rho* (a parameter representing employment mobility) for the input/output (I-O) model of around 0.95 for later use in the base data specifications of regional population migration. That said, there is a well recognised potential for I-O models to double-count impacts to sectors of an economy (Ewings, 1985), and therefore any estimates produced must be interpreted with such potential overestimation in mind.

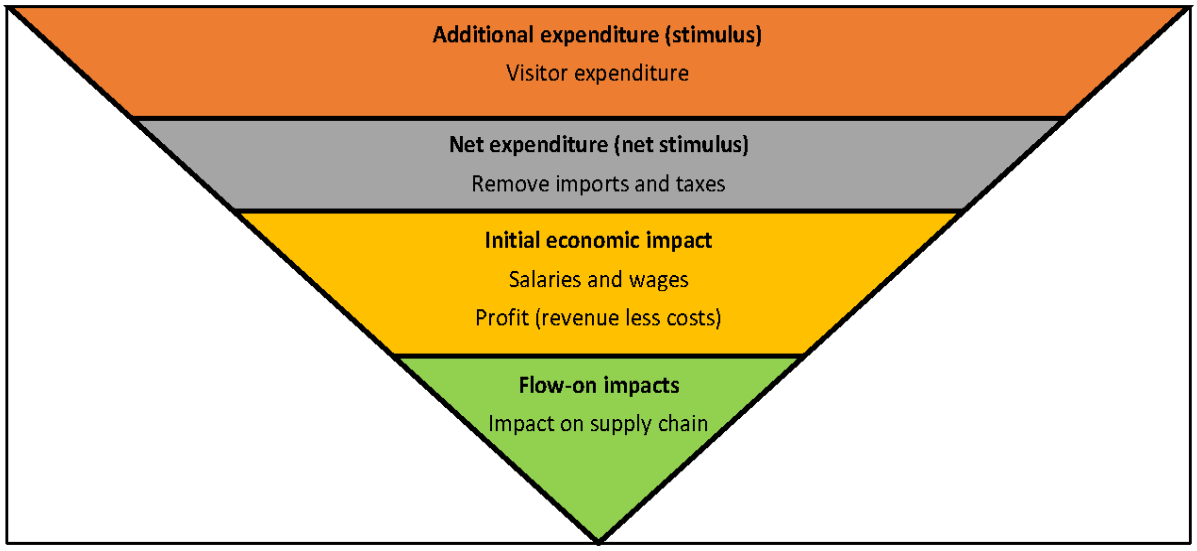


Figure 2: From stimulus to economic impacts

Building on these assumptions, we applied the Regional Industry Structure Employment (RISE v. 6.04) input-output (I-O) model supplied by the Department of Premier and Cabinet to undertake our modeling-based economic valuation of tourism activities. The economic impact of the KIWT was estimated in three steps: (1) calculating activity; (2) estimating primary and secondary expenditure; and (3) estimating the initial and flow-on economic impacts.

1) **Activity:** The amount of additional activity generated by the attraction (visitor numbers, number of nights they stayed, other activities undertaken).
2) **Expenditure:** The additional primary and secondary expenditure generated by visitors (travel costs and incidental meal expenses, onsite camping or accommodation fees, park entry fees, opportunity costs of visitor time, driving permits etc.)
3) **Economic Impact:** The impact on the regional economy was estimated by applying the estimated additional expenditure to a regional input-output model; in this case, the Regional Industry Structure Employment (RISE v. 6.04) model for the KI and Fleurieu regions.

The data sources that were used, their limitations and gaps, and how these were addressed are set out in the following two sections.

2.1 Data

2.1.1 Bookeasy dashboard data

2.1.1.1 Description

DEW's Parks Performance Dashboard for KIWT visitors in 2018-19 provided the main source of data. Additional information was collated from a Survey Monkey census of visitors following the bushfires in 2019-20, and from the Tourism Optimisation Management Model (TOMM) report for 2018-19. Finally, the KI regional profile produced by the South Australian Tourism Commission (SATC) provided relevant visitor profile information for Kangaroo Island.

TOMM data – 2018/19 survey

This data was collected via self-completed visitor exit surveys (n =905 or 44% response rate) available at entry and exit points to the island (ferry, airport terminals), and online. The online version was offered in five languages other than English and has been conducted since 2002 with a focus on identifying trends in tourism demographics and preferences. Major points of interest from the survey data include:

- 25% of total visitors were in the 65 years and over age group
  - 21% SA origin
  - 23% Interstate origin
  - 18% international origin
- Hotels/motels and holiday homes were the two most popular forms of accommodation among the respondents (nearly 50% of visitors).
- 18% of all respondents used camp, caravan or motor-home facilities as a base
- The proportion of respondents whose average spend per night exceeded $200 (higher yield) was 31%
  - International and interstate visitors, those arriving by air, and first-time visitors were more likely to spend over $200 per night than repeat visitors, intrastate visitors and those arriving by sea (i.e., ferry).
  - Winter visitors were more likely to spend over $200 per night (39%) than those visiting in Summer (27%) and Autumn (28%).
- The average number of nights stayed was 4.9 nights.
  - Interstate respondents stayed marginally longer than intrastate visitors (5.1 nights versus 5.0) but this has remained relatively consistent over the last 20 years.
  - International respondent nights have increased slightly over the last 20 years to 3.6 nights, compared to 2.3 nights in 2000-01.

Online Bookings data for all parks on KI (2016-17 to 2019-20) showed that the SA domestic market (intrastate) has the highest total proportion of all bookings (65%), and that SA visitor numbers have been slowly increasing over that time by 37% (Figure 3).

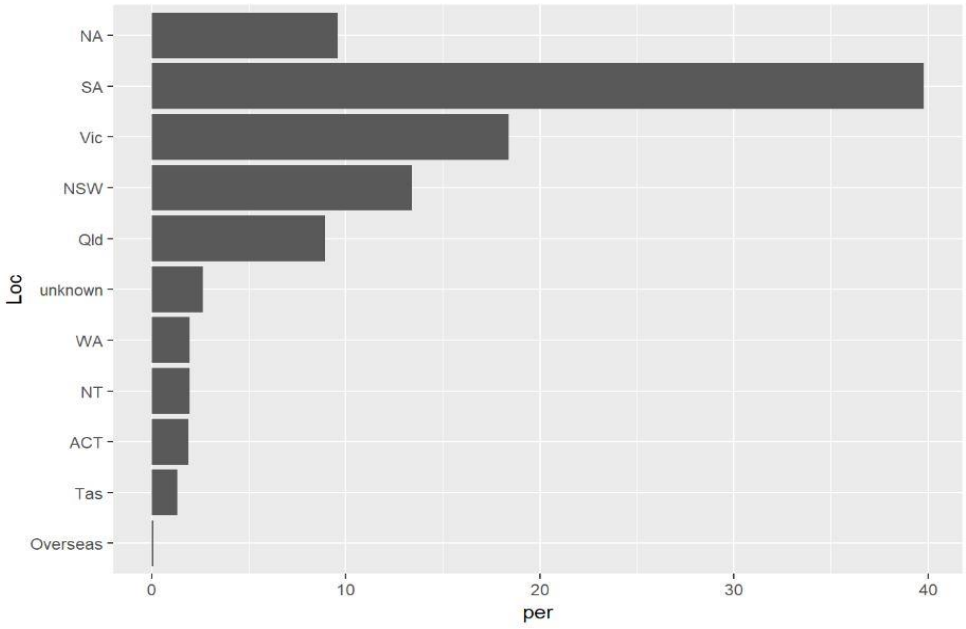
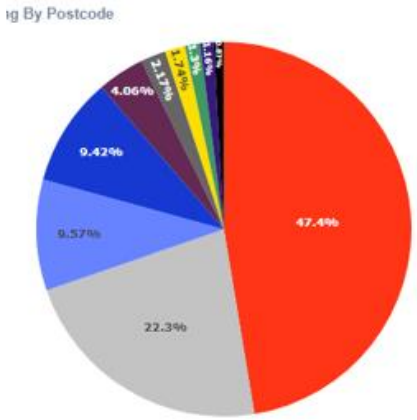


Figure 3: Visitor origin for the KIWT (DEW, 2021)

In total, 2,063 visitors walked the KIWT in 2018-19 generating a primary economic revenue for the National Parks and Wildlife Service (NPWS) of $237,958. Of all visitors, 45% were independent (self-organised, or self-catered) travellers, 45% took advantage of the assisted start drop-off/end pick-up services, and 10% were assisted daily along the trails (or an additional $36,180 worth of primary economic benefits associated with the KIWT). The online bookings by visitor origin are broken down as follows (and shown opposite):

- South Australia – 47%
- New South Wales – 10%
- Victoria – 10%
- Western Australia – 4%
- Other (incl. international) – 2%
- Tasmania/ACT/Northern Territory – 1% each
- Unknown origin (incl. international) – 22%



These origin data are derived from a postcode reference which forms the basis of the secondary economic analysis using the travel cost approach (TCA), as detailed below.

2.1.1.2 Data limitations and gaps

The data mainly came from the *Bookeasy* database, and missing data were limited in this case given known origin postcodes on the basis of a survey undertaken by NPWS Rangers to capture origin points for visitors that year. Unique booking numbers and extrapolation of different sources allowed some control of missing data and to enable the calculation of maximum distances for anyone undertaking multiple trips where the highest distance formed the basis of the final value.

2.2 Methods

The input-output model approach, activity assumptions and inputs used for each step of the economic impact are detailed in the following three sections.

2.2.1 The I-O model

In any economy, businesses produce commodities (outputs) which are consumed by other businesses (inputs), where the initial enterprise relied on inputs for their original production. This cycle of activity has a flow-on impact to regional economies in terms of gross regional product (GRP) and supported full-time equivalent employment (FTE) levels. An I-O model accounts for the interaction between businesses and economic sectors to estimate final GRP/FTE impact (Ewings, 1985); and hence some estimate of a National Park's contribution to the region where it is located. Due to the potential for double-counting across sectors of the economy, estimates flowing from I-O models must be treated with caution. They do, however, offer at least a baseline assessment of stimulus impacts.

2.2.2 Activties

All inputs, their sources, and the range used to estimate additional activity (visitors and nights stayed) are detailed in Table 1.

Table 1: Activity estimate - parameters and assumptions

Parameter	Source	Assumptions
Visitors	*Bookeasy* dashboard data as provided by DEW	Reliable data available for nights stayed and so no further assumptions needed.
Distance visitors traveled	Bing distance metrics as calculated by the University of Adelaide research team	Postcode data provides a rough approximation of the origin location for each visitor (or group of visitors travelling on the same booking). In some instances, bookings for visits to multiple sites may be included in a single Parks Pass. For multiple trips on the same itinerary with a single booking number each trip was calculated with highest value forming the basis for the estimate. This offered a conservative estimate of distances travelled for those visitors; and does not account for benefits derived as a consequence of the trip, but not related to our study interest (e.g., visiting a relative along the way). As such, consumer surplus may be overestimated. All other visitors had travel distance in kilometers calculated between origin and destination sites.
Visitors staying at least one night or two or more nights	*Bookeasy* dashboard data as provided by DEW	Reliable data available for nights stayed and so no further assumptions needed.
Accommodation, incidental or primary economic expenses	*Bookeasy* dashboard data as provided by DEW and ATO TD 2019/11 Taxation Determination data	Assumed that up to two visitors would utilize one room each night, and multiplied by number of nights recorded for the trip. One additional room added for each additional two visitors in the total party. All Victorian visitors with greater than 4 hours travel assumed to stay in a Tier Two town overnight, but beyond that first night Other Country Centre rates applied. All other origins assumed to stay overnight at a Country Centre town for travel duration. See Table 1 for detailed rates.

All values used to estimate primary and secondary costs were based on 2018-19 rates where possible. Once again, it should be noted that our focus on travel costs to derive secondary economic benefits may provide an overestimate of consumer surplus (i.e., what visitors may be willing to pay over and above primary costs to experience a park) and as such as it is not an accurate surplus estimate, but rather the gross expenditure. An example set of data used appears below in Table 2.

Table 2: Expenditure estimates – Primary and Secondary

Examples	Primary Economic	Secondary Economic
CTO trail fee for portage	$120 per person	
5-day Walk Tour (single pax)	$165	
Example primary costs	**$285.00**	
Vehicle travel costs (ATO)		$0.68 cents/kilometer
Tier Two town rate		$152/night
Tier Two meals & incidentals		$138.80
ATO Tier Two full rate:		**$290.80**
Other Country Centre rate		$110/night
CC meals & incidentals		$121.15
ATO CC full rate:		**$231.15**

2.2.3 Economic impact

The economic impact was estimated using the RISE v. 6.04 Kangaroo Island and Fleurieu Peninsula regional model. The additional parameters were selected and/or set as presented in Table 1.

Table 3: Additional parameters in the RISE model

Item	Selection
Indicators used for RISE model output	Used: value added as GRP and employment as FTE. Not used: Household income impacts, population impacts, employment (total) and output (total).
Regional migration co-efficient	The estimated proportion of jobs that are filled by previously unemployed local residents of the area.[2] Selected value – 0.95 (95% of jobs filled by locals).
Proportion of expenditure excluded	Leakages are considered 'imports' and 'taxes less subsidies'[3] and are excluded from the impact on the regional economy.
Industry model	To allocate expenditure into industry sectors, two sectors were selected to focus on: the 'Construction' sector for initial build expense impacts, and the 'Tourism' industry for the travel costs. Within the RISE model we also could have conducted a manual estimate based on reasonable assumptions for items visitors might purchase. Ultimately, the 'Tourism' industry was considered the more appropriate choice.
Treatment of induced consumption	Induced consumption effects were excluded as they are considered indirect for reporting purposes.[4]

2 RISE Model Version 6.04, Glossary of Terminology.

3 This means taxes less subsidies (TLS) on production and imports.

4 Department of Treasury and Finance, 'Guidelines for the evaluation of public sector initiatives, Part B: investment Evaluation Process' 2014 page 68.

3 Results

3.1 KI and Fleurieu Regional Impact results

The results illustrated below are the KI and Fleurieu Regional Impact results from all expenditure in terms of Gross Regional Product (GRP) and supported Full-time Employment (FTE). We begin with an assessment of the construction cost stimulus and its flow-on effects.

3.1.1 KIWT construction phase (2014/15 – 2016/17)

Recalling that there is scope for some double-counting in the I-O models, the construction phase for KIWT would have resulted in positive economic impacts while the work was being undertaken. The stimulus experienced would have been most significant in 2015-16, as much of the expenditure was incurred at that time, creating higher initial and flow-on impacts in that same year (Table 4).

Table 4: KIWT construction stimulus primary impact results

	2014-15	**2015-16**	**2016-17**
Additional expenditure	$1,118,173	$4,197,000	$1,751,635
Impact on Gross Regional Product[5]			
Initial [6]	$337,256	$1,265,873	$528,317
Flow-on	$177,601	$666,617	$278,215
Total	**$514,858**	**$1,932,491**	**$806,533**
Impact on Employment (FTE)[7]			
Initial	2.99	11.23	4.69
Flow-on	1.92	7.20	3.00
Total	**4.91**	**18.43**	**7.69**

The estimated total impact over the three years on GRP was $3.2 million; which is sufficient to provide a considerable boost to regional economic activity. That level of construction activity would have supported around 31 FTEs jobs as a result of the projects. These estimates could be used as evidence of broadly verifiable economic value of government works in the conservation reserve network. While not explicitly accurate, these modelled results provide a useful guidance in estimating the full worth of that investment to the SA economy.

[5] 'Gross Regional Product or Gross State Product is a measure of the net contribution of an activity to the economy, it is the measure of the value of output less the cost of goods and services used in producing the output.' It is the preferred indicator for measuring economic impact. BDO, 'User Notes for the RISE Version 6.04 Impact Model', (Feb 2020) page 22.

[6] '*Initial impacts* are those that impact the level of economic activity as a result of the stimulus. *Flow-on* effects are estimates of the purchases required from other sectors as a result of the initial economic activity, plus the estimates of the output from second, third and subsequent spending rounds by firms.' BDO, 'User Notes for the RISE Version 6.04 Impact Model', (Feb 2020) page 21 and 23.

[7] Department of Treasury and Finance, 'Guidelines for the evaluation of public sector initiatives, Part B: investment Evaluation Process' 2014 page 68.

3.1.2 Primary versus secondary tourism expenditure stimulus impacts

Once constructed, the KIWT tourism activity generated primary and secondary net stimulus benefits for the regional economy and positive impacts on GRP in the order of around $587,000 in 2018-19 (Table 5). The total contribution to the Gross Regional Product (GRP) of the region was estimated at between $122,136 (primary multipliers) and $539,859 (secondary multipliers). Further, between 1.34 and 5.91 FTE jobs were supported in the area.

Table 5: KI and Fleurieu Economic Impact Results

	Primary economic impact	**Secondary economic impact**
Additional expenditure	$237,958	$1,051,806
Less leakages (imports and taxes)	$20,172	$464,781
Net stimulus	$181,606	$587,025
Impact on Gross Regional Product		
Initial	$91,034	$402,381
Flow-on	$31,103	$137,478
Total	**$122,136**	**$539,859**
Impact on Employment (FTE)		
Initial	1.03	4.55
Flow-on	0.31	1.36
Total	**1.34**	**5.91**

For the primary economic stimulus, the majority of the impact is felt in the accommodation and food sectors, with retail trade and new industry featuring highly in the list of top-ten impacts for the year (Figure 4). As discussed, much of the stimulus creates initial impact, with lower effects in subsequent rounds. By contrast, the secondary economic multiplier impacts are felt more strongly in the retail trade, accommodation, new industry and food and beverage services sectors (Figure 5). This follows the makeup of the input-output tables relating to the tourism industry as represented in the model, and again provides guidance only on the relative flow-on effects across industry sectors.

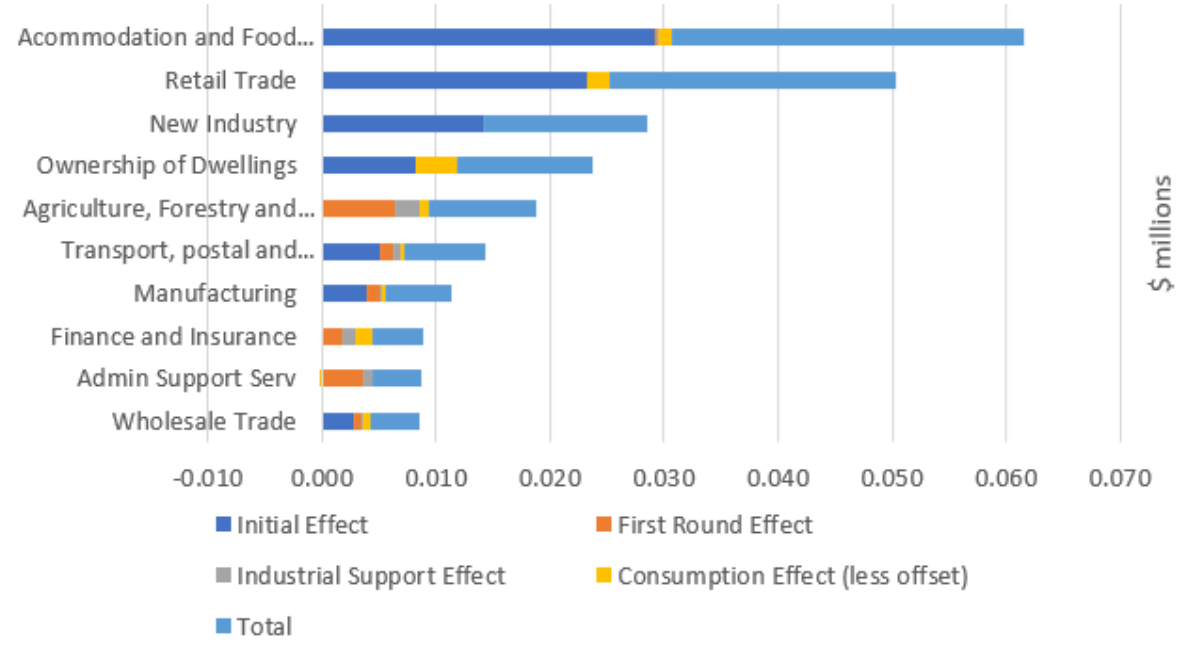


Figure 4: Primary regional sector GRP stimulus across the Top 10 (of 20) Sectors – 2018-19

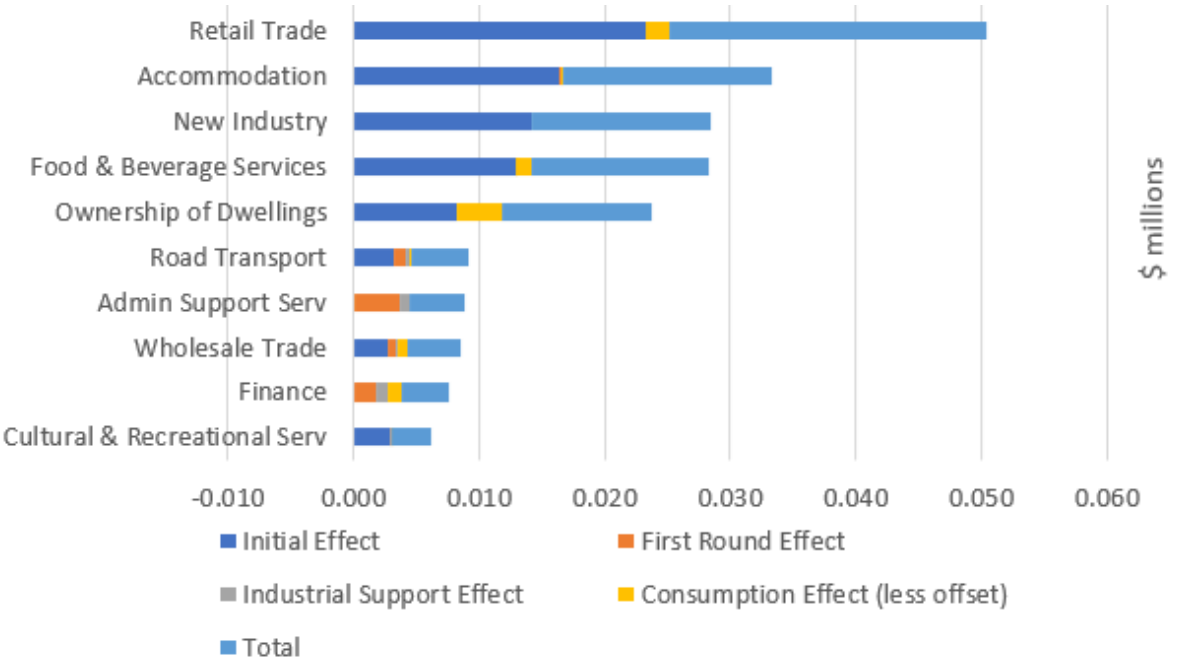


Figure 5: Secondary regional sector GRP stimulus across the Top 10 (of 20) Sectors – 2018-19

4 Implications of the research

This project was able to quantify the level of economic contribution that could be attributed to the SA Government investment on KIWT tourism facilities, and how those benefits would accrue to the state economy via visitor expenditure and regional economy linkages. In particular, the secondary economic benefits offer valuable information on the relative impacts of the KIWT on both GRP and associated FTE outcomes for Kangaroo Island which is a self-contained community with a high reliance on the tourism sector for income and employment. While unlikely to be accurate as a full estimate of the value of the KIWT as a state asset, this study does provide a useful baseline assessment for evaluating future investment in ongoing improvement of this and similar NPWS assets.

Although the data used in this case were reasonably accurate for the intended purpose, some data gaps were identified; particularly gaps in data from Commercial Tour Operators (CTO) that could be addressed to improve estimates of the economic impact of nature-based tourism on the local economy. Some broad addition of the revenue generated by CTO portage services was made, but it would be preferable to more accurately assess and include such observations in future work. Estimates of the primary economic value provided by CTO to the KIWT results were therefore assumed herein, and estimated conservatively. More accurate data would likely demonstrate further positive GRP/FTE benefits from nature-based tourism. Further, DEW have made an investment in the *Bookeasy* and other data sources which, if strengthened, could only add significant value to their analytical toolkit and understanding of the value of their assets economically—where the conservation values themselves are largely beyond accurate measurement.

Importantly, if we combine the primary and secondary economic benefits derived from all sources of analysis for this project (i.e., Bookeasy data analysis, travel cost analysis calculations and regional impact assessment via I-O modelling) the total economic impact of the KIWT in 2018-19 for the national, state and regional economies was around $1.9 million. As a significant national attraction, the KIWT has the capacity to grow that contribution over time. However, it is clear that South Australian residents recognise the importance of this site as a state asset and engage with it at present. The economic benefits of intrastate tourism involving use of the KIWT include the retention of tourism expenditure by South Australians in South Australia. This study shows that this investment is both significant and represents an asset that offers a durable source of economic activity for the industries and enterprises that operate to provide goods and services to nature-based tourists who choose KIWT as an attractive destination.

The secondary economic value associated with the KIWT was approximately five times as large as the primary economic value. This ratio is not unexpected as a large range of goods and services are consumed by nature-based tourists, incidental to their use of the KIWT. The salient point is that approximately 87% of the economic impact from nature-based tourism does not pass through DEW cash registers but is felt across the regional economy in a range of sectors, primarily accommodation and food and retail trade.

The results here show that, subject to capacity constraints in the island, appropriate investments that improve and sustain the attractiveness of KIWT to local, interstate and international visitors could have a positive regional and state economic benefit.

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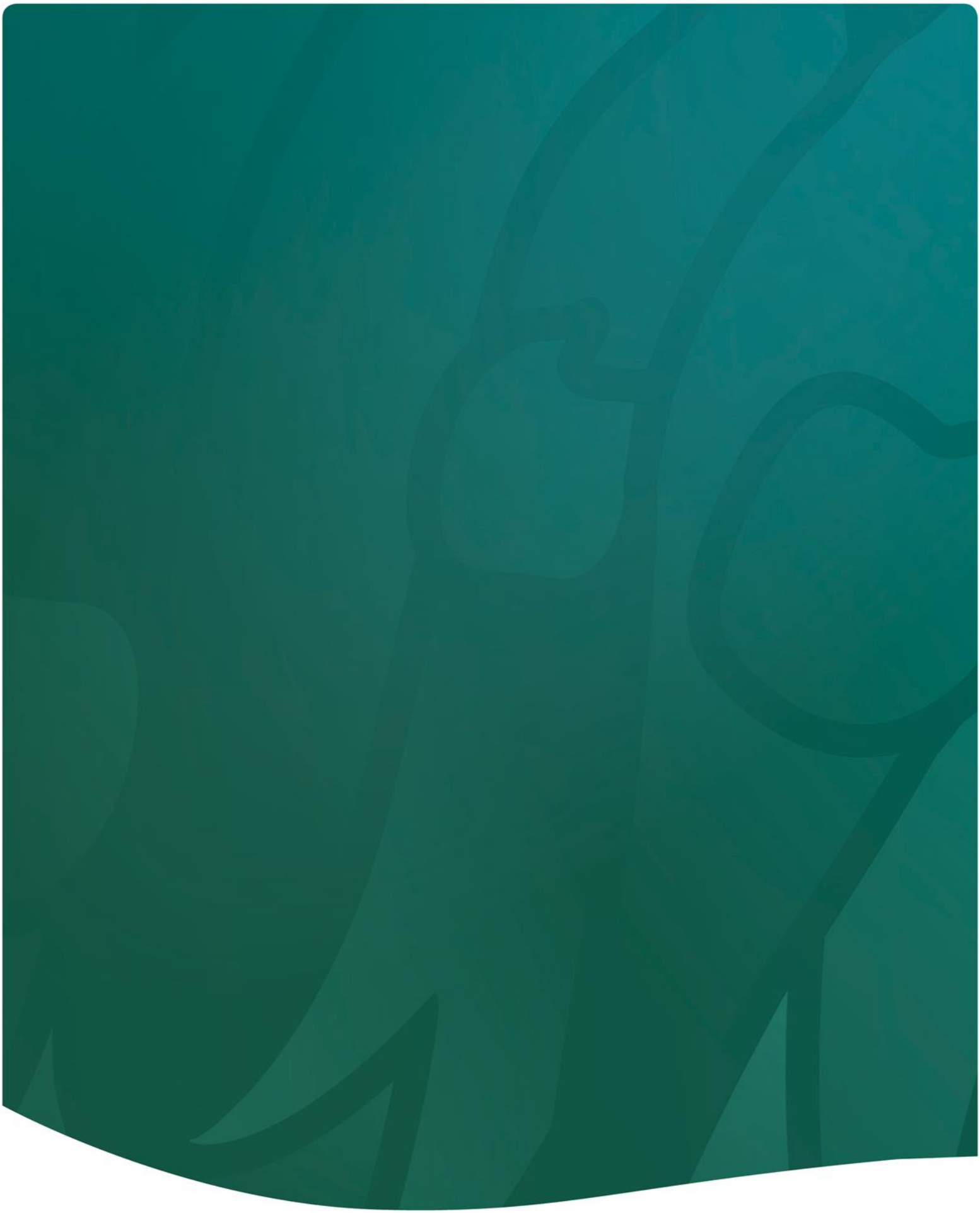

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