

This document links with
“Turks & Caicos Islands Natural Capital
Accounting - Final Report”

This is part of the Turks & Caicos Islands Natural
Capital Accounts

[https://jncc.gov.uk/our-work/natural-capital-in-
the-caribbean-uk-overseas-territories/](https://jncc.gov.uk/our-work/natural-capital-in-the-caribbean-uk-overseas-territories/)

Turks and Caicos Ecosystem Assessment

2018/2019

Tab	Description	Type of tab
Overview	Overview of the structure of the account with hyperlinks to each reporting statement and supporting schedule.	Overview
Key	Presents a key explaining the broad organisation of tabs within this workbook.	Key
Summary	Summary of the Physical and Monetary accounts with overall annual and asset value.	Summary
Scoping	Asset matrix assessing the presence of habitats and ecosystem services.	Scoping
S1. Natural capital extent account	Presents the extent and condition of present habitats.	Summary table
S2. Physical flow account	Presents a summary of the estimated physical flow of goods and services provided by natural capital in the baseline year.	Summary table
S2.1. Phys- Fisheries	Estimation of fisheries benefits supported by the natural environment.	Supporting schedule
S2.2. Phys - Agriculture	Estimation of agriculture benefits supported by the natural environment.	Supporting schedule
S2.3. Phys - Coastal defence	Estimation of coastal defence benefits supported by the natural environment.	Supporting schedule
S2.4. Phys - Surface hydrology	Estimation of surface hydrology benefits supported by the natural environment.	Supporting schedule
S2.5. Phys - Carbon sequestration	Estimation of the carbon sequestration rate supported by the natural environment	Supporting schedule
S2.6. Phys - Tourism	Estimation of tourism benefits produced by the natural environment.	Supporting schedule
S2.7. Phys - Cultural + passive use	Estimation of local cultural services benefits supported by the natural environment.	Supporting schedule
S2.8. Phys - Recreational use	Estimation of local recreation benefits supported by the natural environment.	Supporting schedule
S3. Monetary flow account	Presents a summary of the estimated monetary flow (\$ value) of goods and services provided by natural capital in the baseline year.	Summary table
S3.1. \$ - Fisheries	Estimation of the value fisheries benefits from the natural environment.	Supporting schedule
S3.2. \$ - Agriculture	Estimation of the value of agriculture from the natural environment.	Supporting schedule
S3.3. \$ - Coastal defence	Estimation of the value of coastal defence from the natural environment.	Supporting schedule
S3.4. \$ - Surface hydrology	Estimation of the value of surface hydrology benefits from the natural environment.	Supporting schedule
S3.5. \$ - Carbon sequestration	Estimation of the value of carbon sequestration rate supported by the natural environment	Supporting schedule
S3.6. \$ - Tourism	Estimation of the value of tourism benefits from the natural environment.	Supporting schedule
S3.7. \$ - Cultural + passive use	Estimation of the value of local cultural services benefits supported by the natural environment.	Supporting schedule
S3.8. \$ - Recreational use	Estimation of the value of local recreation benefits supported by the natural environment.	Supporting schedule
Carbon prices	Data used to calculate the value of the carbon benefits	Additional data
Carbon storage	Estimation of the avoided loss in carbon supported by the natural environment	Additional data
GDP Deflators	Data used to calculate consistent prices years in the monetary flow account.	Additional data

Color key

	Explanatory table
	Reporting
	Scoping
	Summary table
	Supporting schedule
	Schedule not included in this Phase
	Additional data

UPDATING DATA

Data				
ID	Description	Source	Values	Notes
2.1a	Population data	ONS	1,234	Data coloured orange should be updated annually
2.1a	Population data	ONS	1,234	
2.1a	Population data	ONS	1,234	Data coloured red should be taken with caution and improved with better evidence when available
2.1a	Population data	ONS	1,234	

USING THE ACCOUNT

SX. Benefit name
Workings

This box holds the title of the tab.

This tab presents the broad organisation of each of the separate physical and monetary flow tabs.

This box describes an overview of the tab.

Baseline (2017/2018)

Total value xx number per year

This box presents the total annual value (either physical flow or monetary value) provided.

Data				
ID	Description	Source	Values	Notes
2.1a	Population data	ONS	1,234	

This box presents the key data used to estimate physical or monetary flows.

Assumptions				
ID	Description	Source	Explanation	
2.1e	It is assumed...			

This box presents the key assumptions used to estimate physical or monetary flows.

Steps			
Step	Description	Data/Assu	Explanation
2.1.1	For example, estimate	2.1a	This is done by...

This box presents the steps to using the key data and assumptions to estimate physical or monetary flows.

Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
Year (project)	1	2	3	4	5	6	7	8	9	10	11	12
Time horizon (years)	60											

This box details the discount rates and years across the time horizon.

Annual total	xxx												

This box presents the annual values across the time horizon. The values here correspond with the discount rates displayed for each year in the box above.



Natural Capital Account Overview

Summary of key data. It is populated from the summary tables S2 (Physical account) and S3 (Monetary account).

Annual Overview	Physical		Monetary		Present Value
	Baseline (2018/19)	Units	Baseline (2018/19)	Valuation method	25 Years
At May 2019	Annual Value		Annual Value (£m)		PV 25 (£m)
Renewable Benefits					
Fisheries	2,877	tonnes	\$19,737,452	Market prices	\$336,688,704
Agriculture	44,880	lbs	\$136,684	Market prices	\$2,331,612
Coastal defence	1,137	total infrastructure	-	-	-
Surface hydrology	-	-	-	-	-
Carbon Sequestration	479,232	tCO2e	\$31,286,873	BEIS carbon prices	\$740,560,581
Tourism	3,371,953	Visits	\$75,687,280	Tourist expenditure	\$1,291,101,449
Cultural and passive use	35,963	Visits	\$4,022,071	Willingness to pay	\$77,344,619
Recreational use	1,999,888	Visits	\$3,570,190	Resident expenditure	\$68,697,459
Total annual value			\$134,440,550		\$2,516,724,424
Level of Uncertainty					
High	Evidence is partial and significant assumptions are made that require further research.				
Medium	Based on assumptions grounded in science and using published data but with some uncertainty regarding the combination of assumptions.				
Low	Evidence is peer reviewed or based on published guidance.				

Extent and condition account 2018/2019

Extent

Source: Environment Systems, 2018

Habitat (class)	Area (ha)
Dwarf Shrubland	16,769
Forest	5,024
Herbaceous	7,412
Human Altered	5,678
Non-Vascular	23,020
Shrubland	22,487
Woodland	19,383
Grand Total	99,773

Condition

Habitat (sub-class)	Area
Algal	15,184
Archaeological Artifact	18
Cave	1
Clear Cut Landscape	165
Coniferous	925
Coniferous with Shrubland	1,042
Estuarine	10
Evergreen	15,198
Graminoid	4
Impacted by Exotic Nuisance Sp	89
Maintained Landscape	5,376
Mixed	3,046
Mixed Algae	107
Mixed Algal	4,683
Mixed Evergreen/Drought Decid	46,006
Mixed Graminoid/Forb	7,409
Rock	482
Water	30
Grand Total	99,773

Carbon storage in biomass			
Habitat	Mg C/ha	Total Mg C	Total CO2e
Forest	65.00	326543.5141	1,198,415
Woodland	65.00	1,259,913.22	4,623,882
Shrubland	50.00	1,124,350.19	4,126,365
Dwarf Shrubland	50.00	838,434.30	3,077,054

1tC to tCO2e conversion	3.67
-------------------------	------

Pivot tables - 2018

Sum of Area ha	Column Labels								Grand Total	
Row Labels	Dwarf Shrubland	Forest	Herbaceous	Human Altered	Non-Vascular	Shrubland	Woodland			
Ambergris	141			45	94	54		82	457	
Big Sand Cay	18			18	0	16			58	
Bush Cay	3	1		4		0			10	
Caicos Long Cay	52			6		8		0	101	
Cay	0			0		1			1	
Cotton Cay	61			14	0	15		22	112	
Dellis Cay	59	5		23	7	15		51	219	
Donna Cay	3			6	0	1		3	37	
East Bay Islands	478			432	27	918		599	2,668	
East Caicos	3,039	625		2,387	11	5,608		6,564	20,036	
Fish Cay	8			2		1		0	11	
French Cay	1			8		2		3	14	
Ft. George	8	0		9	0	8		7	42	
Gibbs Cay	2			2		1		7	12	
Grand Turk	56	52		131	663	377		521	24	
Joe Grant	185	5		23	5	64		125	115	
Little Ambergris	287	3		42		233		45	62	
Mangrove Cay	31	10		13	0	8		51	1	
Middle Caicos	5,859	849		2,353	189	8,896		7,835	6,700	
Middleton Cay	4			1	0	0		0	5	
Moxy		1			0	0		0	1	
North Caicos	4,380	3,218		1,216	560	3,084		3,672	5,056	
Parrot Cay	188	28		23	52	59		82	134	
Pear Cay	9			0		2		1	12	
Penniston Cay	3			0		0		0	4	
Pine Cay	87	4		40		24		120	445	
Providenciales	604	166		195	3,632	2,559		1,098	3,987	
Round Cay	0					1			1	
Salt Cay	178	5		123	72	171		123	19	
Seal Cay	5								5	
Six Hills Cay	8					1			9	
South Caicos	373	36		181	274	417		606	294	
Stubbs	11			6	0	2		32	2	
Turks East Cay	30			8		9		1	47	
Turks Long Cay	10			4		4		4	21	
Water Cay	124	13		32	2	41		28	192	
West Caicos	457	2		59	57	431		768	499	
White Cays	4			4		1		1	9	
Grand Total	16,769	5,024		7,412	5,678	23,020		22,487	19,383	99,773

Row Labels	Sum of Area ha
Algal	15,184
Archaeological Artifi	18
Cave	1
Clear Cut Landscape	165
Coniferous	925
Coniferous with Shn	1,042
Estuarine	10
Evergreen	15,198
Graminoid	4
Impacted by Exotic I	89
Maintained Landscap	5,376
Mixed	3,046
Mixed Algae	107
Mixed Algal	4,683
Mixed Evergreen/Dr	46,006
Mixed Graminoid/Fr	7,409
Rock	482
Water	30
Grand Total	99,773.45

Extent and condition account 2017/2018

Habitat (class)	Area (ha)
Dwarf Shrubland	16,770
Forest	5,000
Herbaceous	7,413
Human Altered	5,679
Non-Vascular	23,021
Shrubland	22,488
Woodland	19,384
Grand Total	99,753

Habitat	Grand Total
Algal	18,209
Archaeological Art	16
Cave	1
Clear Cut Landscap	165
Coniferous	925
Coniferous with Sh	1,042
Evergreen	15,189
Graminoid	4
Impacted by Exotic	92
Maintained Landsc	5,376
Mixed Algal	4,811
Mixed Evergreen/I	46,004
Mixed Graminoid/I	7,409
Rock	482
Water	30
Grand Total	99,753

Pivot tables - 2017

Sum of SHAPE_Area	Column Labels								Grand Total
Row Labels	Dwarf Shrubland	Forest	Herbaceous	Human Altered	Non-Vascular	Shrubland	Woodland		
Ambergris	4274416.737	28042.0365	874565.4692	940813.8624	2741147.901	981382.8	1434382.717		11274751.52
Caicos Bank Cays	210568.0778	8395.94796	174994.7957		52952.60659	44040.09			490951.5185
East Bay Islands	4783269.961		4323572.143	265059.5914	9181524.704	5990105	2133518.954		26677050.18
East Caicos	30394675.08	6251538.842	23873908.42	113699.3546	56078001.18	65636619	18016862.43		200363104.6
Grand Turk	564950.9831	521062.3839	1313678.111	6633633.395	3772414.154	5213389	238517.2477		18257645.32
Joe Grant	1853196.381	48949.63357	232763.0943	53552.59818	636645.475	1252127	1147596.75		5224830.755
Leeward Islands	5109370.492	602829.264	1517113.955	940019.3047	1584478.112	4045209	5303520.699		19102541.02
Middle Caicos	58593891.97	8493645.057	23534634.82	1887125.055	88961836.38	78346996	66999321.84		326817450.8
North Caicos	43799739.53	32184128.95	12165017.85	5595388.504	30836408.56	36715524	50559094.54		211855301.6
Providenciales	6043784.621	1420240.077	1953106.362	36323559.17	25589649.42	10978018	39869477.21		122177834.7
Salt Cay	1776257.702	48423.63195	1227823.996	715910.7702	1710005.076	1227175	194135.5651		6899731.484
South Caicos	3732655.538	363513.471	1811711.015	2739150.564	4171390.408	6058469	2937985.793		21814876.19
South Caicos Cays	645751.0898	8009.647319	62782.2629	1872.583879	100052.5109	361109.8	2039.50178		1181617.431
Turks Island Cay	1334280.355		467924.7013	4546.484276	478059.6371	338448.6			2623259.784
West Caicos	4579910.78	21135.95128	594769.3219	573372.2301	4312743.324	7688311	5001461.646		22771704.38
Grand Total	167696719.3	49999914.9	74128366.32	56787703.47	230205109.5	2.25E+08	193837914.9		997532651.4

Physical Account

Benefit	Indicator	Baseline year	Units	Notes
Fisheries	Total weight - Spiny Lobster (<i>Panulirus argus</i>)	1,037	tonnes	Data was provided in tonnes, therefore, final results are presented in tonnes
	Total weight - Queen Conch (<i>Strombus gigas</i>)	1,018	tonnes	
	Total weight - Scalefish (Mixed)	822	tonnes	
	Total weight	2,877	tonnes	
Agriculture	Sweet pepper	1,800	lbs	Data was provided in lbs, therefore, final results are presented in lbs
	Tomato	2,760	lbs	
	Okra	8,496	lbs	
	Papaya	12,000	lbs	
	Sweet potato	2,160	lbs	
	Hot pepper	2,496	lbs	
	Pumpkin	1,200	lbs	
	Beans	804	lbs	
	Nesberyl (<i>Sapodilla</i>)	1,500	lbs	
	Callaloo	3,504	lbs	
	Cucumber	7,200	lbs	
	Soursop	600	lbs	
	Eggs	360	lbs	
	Total	44,880	lbs	
Coastal defence	Total no. of buildings damage avoided due to natural capital	878		
	Total no. of schools damaged avoided due to natural capital	2		
	Total no. of roads damaged avoided due to natural capital	257		
		1,137	total infrastructure	
Surface hydrology				
Carbon sequestration	Total carbon sequestered	479,232	tCO ₂ e	Placeholder - take this value with caution
Tourism	Visitor nights ('Sun, Sea and Sand')	1,400,895	Visits	
	Visitor nights ('Honeymoon/Wedding')	470,708		
	Visitor nights ('Ocean sports')	269,214		
	Visitor nights ('Diving')	162,078		
	Visitor nights (Visiting friends and relatives)	98,872		
	Visitor nights (Business meeting, conference)	101,467		
	Visitor nights (Other)	186,297		
	Number of visitor dives	90,000		
	Cruise visits - passengers	541,523		
	Cruise visits - crew	140,900		
	Total overnight visitors	449,567		
	Total visits	3,371,953		
Cultural and passive use	Local TCI resident population	35,963		
Recreational use	Number of recreational visits	1,999,888		

S2 Physical flow account
S2.1 Fisheries - commercial and subsistence

The aggregate estimate of energy generation capacity on TCI from this worksheet provides the basis for the estimation of monetary

Baseline (2018/2019)			
	Annual	25 year asses	Units
Total weight - Spiny Lobster (<i>Panulirus argus</i>)	1,037	25,917	tonnes
Total weight - Queen Conch (<i>Strombus gigas</i>)	1,018	25,461	tonnes
Total weight - Scalefish (Mixed)	822	20,541	tonnes
Total weight	2,877	71,919	tonnes

Data					
ID	Description	Source	Value	Unit	Note
2.1a	Export quantity - Spiny Lobster (<i>Panulirus argus</i>)	DECR -	219.67	metric tonne	2016 value
2.1b	Export quantity - Queen Conch (<i>Strombus gigas</i>)	DECR -	381.95	metric tonne	2016 value
2.1c	Export quantity - Scalefish (Mixed)	DECR -	8.57	metric tonne	2016 value
2.1d	Domestic quantity - Spiny Lobster (<i>Panulirus argus</i>)	Reconstructio	6.70	Kg/person/ye	Estimated value between 1995 and 2012
2.1e	Domestic quantity - Queen Conch (<i>Strombus gigas</i>)	Reconstructio	7.50	Kg/person/ye	Estimated value between 1995 and 2012
2.1f	Domestic quantity - Scalefish (Mixed)	Reconstructio	16.50	Kg/person/ye	Estimated value between 1995 and 2012
2.1g	Tourist consumption - Spiny Lobster (<i>Panulirus argus</i>)	Reconstructio	0.0102	Kg/per	2013 National seafood consumption survey
2.1h	Tourist consumption - Queen Conch (<i>Strombus gigas</i>)	Reconstructio	0.0071	Kg/per	2013 National seafood consumption survey (Conch)
2.1i	Tourist consumption - Scalefish (Mixed)	Reconstructio	0.0026	Kg/per	2013 National seafood consumption survey
2.1j	Tourist number of meals	Reconstructio	15.20	meals/per	Estimated average
2.1k	Imported quantity	Reconstructio	0.50	Proportion	Finfish only
2.1l	TCI Population	Worldometers	35963	No.	2018
2.1m	Land Base Arrivals (stay overs)	Turks &	449567	No.	2018 total
2.1n	Weight conversion - Spiny Lobster (<i>Panulirus argus</i>)	Reconstructio	2.63	Serving	To account for shell and trimmings
2.1o	Weight conversion - Queen Conch (<i>Strombus gigas</i>)	Reconstructio	2.00	Serving	To account for trimmings (shell removed)
2.1p	Weight conversion - Scalefish (Mixed)	Reconstructio	1.35	Serving	To account for trimmings
2.1q	Conversion	https://www.	1000	kgs/tonne	To convert kg to tonne

Assumptions		
ID	Description	Explanation
2.1r	Reported landings account for export quantity	Landings reported by the fish processing plant are assumed to be destined for the export market, with data unavailable as to the size of the catch for the domestic, subsistence, and tourism sector market
2.1s	Domestic and subsistence quantities equal to consumption	The quantity of catch for the domestic market and subsistence is assumed to be equal to the average consumption, based on surveys
2.1t	Quantity sold to the tourism sector equals tourist consumption	The quantity of catch sold to the tourism sector is equal to the average consumption by tourists, based on surveys
2.1u	Imports account for 50% of tourist consumed scalefish	Half of tourist consumed scalefish is imported, no imports for other species categories
2.1v	Historic values (i.e. from 2012 and 2013 are valid in 2018)	
	2018 values remain constant	

Steps		
Step	Description	Data/Assumpt: Explanation
2.1v	Calculate export weight	2.1a; 2.1b; 2.1c Take landing data for the three primary species categories as the annual export value
2.1w	Calculate domestic weight	2.1 d/e/f ; 2.1 Take domestic consumption estimate for each species, multiply by live weight conversion to account for difference between live weight and consumed weight for each species, and multiply by weight conversion
2.1x	Calculate tourism sector weight	2.1g/h/l ; 2.1j Take tourist consumption per meal for each species, multiply by average number of meals, multiply by number of tourist arrivals per year, and multiply by live weight conversion for each species
2.1y	Convert kgs to tonnes	

Calculations - Annual																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Total export weight - SPINY LOBSTER (<i>Panulirus argus</i>)	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220	220
Total export weight - QUEEN CONCH (<i>Strombus gigas</i>)	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382	382
Total export weight - SCALEFISH (Mixed)	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
Total domestic weight - SPINY LOBSTER (<i>Panulirus argus</i>)	872	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817	817
Total domestic weight - QUEEN CONCH (<i>Strombus gigas</i>)	687	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636	636
Total domestic weight - SCALEFISH (Mixed)	898	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813	813

Calculations - 25 year assessment	
Total export weight - SPINY LOBSTER (<i>Panulirus argus</i>)	5,492
Total export weight - QUEEN CONCH (<i>Strombus gigas</i>)	9,549
Total export weight - SCALEFISH (Mixed)	214
Total domestic weight - SPINY LOBSTER (<i>Panulirus argus</i>)	20,425
Total domestic weight - QUEEN CONCH (<i>Strombus gigas</i>)	15,912
Total domestic weight - SCALEFISH (Mixed)	20,327

S2 Physical flow account
S2.2 Agriculture

The aggregate estimate of energy generation capacity on TCI from this worksheet provides

Baseline (2018/2019)		
	Annual	25 year assess Units
Sweet pepper	1,800	45,000 lbs
Tomato	2,760	69,000 lbs
Okra	8,496	212,400 lbs
Papaya	12,000	300,000 lbs
Sweet potato	2,160	54,000 lbs
Hot pepper	2,496	62,400 lbs
Pumpkin	1,200	30,000 lbs
Beans	804	20,100 lbs
Nesberyl (Sapodilla)	1,500	37,500 lbs
Callaloo	3,504	87,600 lbs
Cucumber	7,200	180,000 lbs
Soursop	600	15,000 lbs
Eggs	360	9,000 lbs
Total	44,880	1,122,000 lbs

Data					
ID	Description	Source	Value	Unit	Note
2.2a	Sweet pepper	Turks and	150.00	lbs/month	
2.2b	Tomato	Turks and	230.00	lbs/month	
2.2c	Okra	Turks and	708.00	lbs/month	
2.2d	Papaya	Turks and	1000.00	lbs/month	
2.2e	Sweet potato	Turks and	180.00	lbs/month	
2.2f	Hot pepper	Turks and	208.00	lbs/month	
2.2g	Pumpkin	Turks and	100.0000	lbs/month	
2.2h	Beans	Turks and	67.0000	lbs/month	
2.2i	Nesberyl (Sapodilla)	Turks and	125.0000	lbs/month	
2.2j	Callaloo	Turks and	292.00	lbs/month	
2.2k	Cucumber	Turks and	600.00	lbs/month	
2.2l	Soursop	Turks and	50.00	lbs/month	
2.2m	Eggs	Turks and	30.00	flats	
2.2n	Months per year			12 months	

Assumptions		
ID	Description	Explanation
2.2o	Produce quantities assumed to be	Due to lack of data to indicate otherwise, quantities of produce are assumed to be stable over the assessment period

Steps		
Step	Description	Data/Assumpt Explanation
2.2p	Calculate quantites for each type	2.2a-2.2m Take estimates for the quantity of each type of produce reported and stream over assessment period
2.2q	Aggregate the per month values	2.2a - 2.2n Multiply the monthly weights by 12

Calculations - Annual	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Sweet pepper	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800	1,800
Tomato	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760	2,760
Okra	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496	8,496
Papaya	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000	12,000
Sweet potato	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160	2,160
Hot pepper	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496	2,496
Pumpkin	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Beans	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804	804
Nesberyl (Sapodilla)	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
Callaloo	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504	3,504
Cucumber	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200	7,200
Soursop	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600
Eggs	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360	360

Calculations - 25 year assessment	
Sweet pepper	45,000
Tomato	69,000
Okra	212,400
Papaya	300,000
Sweet potato	54,000
Hot pepper	62,400
Pumpkin	30,000
Beans	20,100
Nesberyl (Sapodilla)	37,500
Callaloo	87,600
Cucumber	180,000
Soursop	15,000
Eggs	9,000

S2 Physical flow account
S2.5 Carbon sequestration

The aggregate estimate of energy generation capacity on TCI from this worksheet provides the basis for the estimation of

	Baseline (2018/2019)		25 year assesment	
	Annual	Units		Units
Total carbon sequestered				
Forest	98,641	tCO2e/yr	2,466,031	tCO2e
Woodland	380,591	tCO2e/yr	9,514,768	tCO2e
Shrubland	-	-	-	-
Dwarf Shrubland	-	-	-	-
Herbaceous	-	-	-	-
Non-vascular	-	-	-	-
Human altered	-	-	-	-
Total	479,232	tCO2e/yr	11,980,799	tCO2e

Data						
ID	Description	Source	Value			Note
2.5a	Carbon sequestration values for TCI habitats		TCI Habitat	Area (ha)	Carbon sequestration rate	Unit
		Soepadmo, E., 1993. Tropical rain forests as carbon sinks. Chemosphere, 27(6), pp.1025-1039.	Forest	5,024	5.5 tC/ha/yr	Carbon measurements are from subtropical dry forest
			Woodland	19,383	5.5 tC/ha/yr	Carbon measurements are from subtropical dry forest
			Shrubland	22,487	-	
			Dwarf Shrubland	16,769	-	
			Herbaceous	7,412	-	
			Non-Vascular	23,020	-	
			Human Altered	5,678	-	
2.5b	tC to tCO2e conversion factor	Department for	3.57			

Assumptions		
ID	Description	Explanation
2.5c	Carbon sequestration rate	We assume TCI has a similar carbon sequestration rate as Soepadmo (1993), this value is not a perfect match for TCI and therefore must be taken with caution. However, serves as a useful placeholder to illustrate how the method can be done

Steps		
Step	Description	Data/Assumptions + Explanation
2.5d	Convert tC to tCO2e	2.5a/b Carbon values were converted from tC to tCO2e
2.5e	Multiple tCO2e by the area of each ha	2.5a Forest and woodland habitat area was multiplied by the tCO2e rate

Calculations - Annual	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Forest		98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641	98,641
Woodland		380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591	380,591
Shrubland																										
Dwarf Shrubland																										
Herbaceous																										
Non-vascular																										
Human altered																										

Calculations - 25 year assessment	
Forest	2,466,031
Woodland	9,514,768
Shrubland	0
Dwarf Shrubland	0
Herbaceous	0
Non-vascular	0
Human altered	0
Total	11,980,799

S2 Physical flow account

S2.6 Tourism

The aggregate estimate of energy generation capacity on TCI from this worksheet provides the basis for the estimation

Baseline (2018/2019)		
	Annual value	25 year assessment
Visitor nights ('Sun, Sea and Sand')	1,400,895	35,022,371
Visitor nights ('Honeymoon/Wedding')	470,708	11,767,697
Visitor nights ('Ocean sports')	269,214	6,730,344
Visitor nights ('Diving')	162,078	4,051,942
Visitor nights (Visiting friends and relatives)	98,872	2,471,809
Visitor nights (Business meeting, conference)	101,467	2,536,682
Visitor nights (Other)	186,297	4,657,424
Number of visitor dives	90,000	2,250,000
Cruise visits - passengers	541,523	13,538,068
Cruise visits - crew	140,900	3,522,500
Total overnight visitors	449,567	11,239,175
Total visits	3,371,953	84,298,837

Data

ID	Description	Source	Value	Unit	Note
2.6a	Land Base Arrivals (stay overs)	Turks & Caicos	449,567	No.	
2.6b	Cruise Arrivals	Turks & Caicos	1,021,741	No.	
2.6c	Cruise crew visits	BREA (2015)	140900	No.	
2.6d	Proportion of cruise visitor onshore visits that	BREA (2015)	0.53	proportion	
2.6e	Reasons for visit - Sun, sea, sand	National	0.509	proportion	
2.6f	Reasons for visit - Honeymoon / Wedding	National	0.193	proportion	
2.6g	Reasons for visit - Scuba diving	National	0.059	proportion	
2.6h	Reasons for visit - Oceansports (Sailing, Kayaking,	National	0.098	proportion	
2.6i	Reasons for visit - Visiting friends and relatives	National	0.037	proportion	
2.6j	Reasons for visit - Business meeting, conference	National	0.037	proportion	
2.6k	Reasons for visit - Other (including holidaying in	National	0.068	proportion	
2.6l	Average length of stay - Vacation	Departing	6.122	No.	Should be updated in March
2.6m	Average length of stay - Honeymoon/Wedding	Departing	5.425	No.	Should be updated in March
2.6n	Average length of stay - Sports	Departing	6.1105	No.	Should be updated in March
2.6o	Average length of stay - Business	Departing	6.1	No.	Should be updated in March
2.6p	Average length of stay - Visit Friend / Relative	Departing	5.944	No.	Should be updated in March
2.6q	Average length of stay - Other	Departing	6.094	No.	Average of other categories,
2.6r	Total number of dives	Economic	90000	No.	Estimate

Assumptions

ID	Description	Explanation
2.5s	Tourism trendline stable	Assumed stable number of tourists, proportion of each reason for visit, and length of stay for each type, over the assessment period

Steps

Step	Description	Data/Assumption	Explanation
2.5t	Calculate visitor nights per year for overland arrival	2.5a; 2.5e - 2.5k	For each category of visitor, multiply total arrivals by the proportion of that visit type and length of stay for the visit type
2.5u	Calculate number of dives per year	2.5r	Adopt estimated number of dives per year over assessment period
2.5v	Calculate number of onshore cruise visitors	2.5b; 2.5d	Multiply number of cruise arrivals by proportion which are onshore excursions
2.5w	Calculate number of crew visits	2.5c	Adopt number of crew visits
2.5x	Calculate total number of overnight visitors	2.5a	Adopt number of overnight visitors

Calculations - Annual

Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	
Year (project)	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Visitor nights per year ('Sun, Sea and Sand')	1,304,707	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	1,400,895	
Visitor nights per year ('Honeymoon/Wedding')	438,388	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708	470,708
Visitor nights per year ('Ocean sports')	250,729	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214	269,214
Visitor nights per year ('Diving')	150,949	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	162,078	
Visitor nights per year (Visiting friends and relatives)	92,084	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	98,872	
Visitor nights per year (Business meeting, conference)	94,500	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	101,467	
Visitor nights per year (Other)	173,506	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	186,297	
Number of visitor dives per year	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	90,000	
Cruise visits - passengers	460,829	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	541,523	
Cruise visits - crew	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	140,900	
Total overnight visitor arrivals	418,699	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	449,567	

Calculations - 25 year assessment

Visitor nights per year ('Sun, Sea and Sand')	35,022,371
Visitor nights per year ('Honeymoon/Wedding')	11,767,697
Visitor nights per year ('Ocean sports')	6,730,344
Visitor nights per year ('Diving')	4,051,942
Visitor nights per year (Visiting friends and relatives)	2,471,809
Visitor nights per year (Business meeting, conference)	2,536,682
Visitor nights per year (Other)	4,657,424
Number of visitor dives per year	2,250,000
Cruise visits - passengers	13,538,068
Cruise visits - crew	3,522,500
Total overnight visitor arrivals	11,239,175

S2 Physical flow account
S2.7 Cultural and passive uses

The aggregate estimate of energy generation capacity on TCI from this worksheet provides the basis for the estimation of monetary value in S3.8.

Baseline (2018/2019)	
Local TCI resident population	2018 population 35,963

Data					
ID	Description	Source	Value	Units	Notes
2.7a	TCI Population - 2018	Worldometers - from UN dat	35,963		
2.7b	TCI Population - 2020	Worldometers - from UN dat	36,953		
2.7c	TCI Population - 2025	Worldometers - from UN dat	39,328		
2.7d	TCI Population - 2030	Worldometers - from UN dat	41,528		
2.7e	TCI Population - 2035	Worldometers - from UN dat	43,552		
2.7f	TCI Population - 2040	Worldometers - from UN dat	45,309		
2.7g	TCI Population - 2045	Worldometers - from UN dat	46,736		
2.7i	TCI Population growth rate in 2050	Worldometers - from UN dat	0.48%	Percent	

Assumptions		
ID	Description	Explanation
2.7ac	Population projection beyond 2051	Growth rate from 2050 is assumed to stay stable at the 2050 rate

Steps			
Step	Description	Data/Assumptions used	Explanation
2.7ae	Calculate population projection	2.7a - 2.7h	Take 5 year population estimates, proportionally increase over intervening years, and apply 2050 growth rate beyond 2050 projection

Calculations															
Year (chron)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Year (project)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Local population	35,963	36,458	36,953	37,428	37,903	38,378	38,853	39,328	39,768	40,208	40,648	41,088	41,528	41,933	42,338

Calculations														
Year (chron)	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	
Year (project)	15	16	17	18	19	20	21	22	23	24	25	26	27	
Local population	42,742	43,147	43,552	43,903	44,255	44,606	44,958	45,309	45,594	45,880	46,165	46,451	46,736	

S2 Physical flow account S2.8 Recreational use

The aggregate estimate of energy generation capacity on TCI from this worksheet provides the basis for the estimation of monetary value in S3.8.

Baseline (2018/2019)		
	Annual value	Total 25 year assessment
Number of recreational visits	1,999,888	57,429,202

Data					
ID	Description	Source	Value	Units	Notes
2.8a	TCI Population - 2018	Worldometers - from UN dat	35,963		
2.8b	TCI Population - 2020	Worldometers - from UN dat	36,953		
2.8c	TCI Population - 2025	Worldometers - from UN dat	39,328		
2.8d	TCI Population - 2030	Worldometers - from UN dat	41,528		
2.8e	TCI Population - 2035	Worldometers - from UN dat	43,552		
2.8f	TCI Population - 2040	Worldometers - from UN dat	45,309		
2.8g	TCI Population - 2045	Worldometers - from UN dat	46,736		
2.8j	No. of individuals in survey	2018 Student Survey	73	Person	
2.8k	Total frequency	Boating 2018 Student Survey	293	/Year	
2.8l	Total frequency	Kayaking 2018 Student Survey	46	/Year	
2.8m	Total frequency	Swim 2018 Student Survey	198	/Year	
2.8n	Total frequency	Walk 2018 Student Survey	2350	/Year	
2.8o	Total frequency	Hike 2018 Student Survey	16	/Year	
2.8p	Total frequency	Snorkel 2018 Student Survey	108	/Year	
2.8q	Total frequency	Fishing 2018 Student Survey	172	/Year	
2.8r	Total frequency	Non-recreation 2018 Student Survey	723	/Year	
2.8s	Total frequency	Other 2018 Student Survey	155	/Year	Includes basketball, biking, bird
2.8t	Average frequency	Boating 2018 Student Survey	4.01	frequency/perso	
2.8u	Average frequency	Kayaking 2018 Student Survey	0.62	frequency/perso	
2.8v	Average frequency	Swim 2018 Student Survey	2.71	frequency/perso	
2.8w	Average frequency	Walk 2018 Student Survey	32.18	frequency/perso	
2.8x	Average frequency	Hike 2018 Student Survey	0.22	frequency/perso	
2.8y	Average frequency	Snorkel 2018 Student Survey	1.48	frequency/perso	
2.8z	Average frequency	Fishing 2018 Student Survey	2.36	frequency/perso	
2.8aa	Average frequency	Non-recreation 2018 Student Survey	9.90	frequency/perso	
2.8ab	Average frequency	Other 2018 Student Survey	2.12	frequency/perso	Includes basketball, biking, bird

Assumptions		
ID	Description	Explanation
2.8ad	South Caicos represents the recreational activities for the rest of TCI.	The student survey was conducted on South Caicos. It is assumed that this sample can be aggregated to represent the full TCI population.

Steps			
Step	Description	Data/Assumptions used	Explanation
2.8ae	Calculate population projection	2.6a - 2.6h	Take 5 year population estimates, proportionally increase over intervening years, and apply 2050 growth rate beyond 2050 projection
2.8af	Estimate the average number of trips per	2.6j - 2.6s	For each activity, divide the 'total number of times' by the number of people in the survey
2.8ag	Aggregate the average number of trips to	2.6t - 2.6ab	For each activity, multiply the average number of trips by the total population in each year.

Calculations																									
Year (chron)	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Local population	35,963	36,458	36,953	37,428	37,903	38,378	38,853	39,328	39,768	40,208	40,648	41,088	41,528	41,933	42,338	42,742	43,147	43,552	43,903	44,255	44,606	44,958	45,309	45,594	45,880

Total number of times per year																									
Boating	144,345	146,331	148,318	150,225	152,131	154,038	155,944	157,851	159,617	161,383	163,149	164,915	166,681	168,306	169,930	171,555	173,180	174,805	176,215	177,625	179,036	180,446	181,857	183,002	184,148
Kayaking	22,415	22,724	23,032	23,328	23,624	23,921	24,217	24,513	24,787	25,061	25,335	25,610	25,884	26,136	26,389	26,641	26,893	27,145	27,364	27,583	27,802	28,022	28,241	28,418	28,596
Swim	97,297	98,636	99,976	101,261	102,546	103,831	105,116	106,401	107,592	108,782	109,972	111,163	112,353	113,448	114,544	115,639	116,734	117,829	118,780	119,730	120,681	121,632	122,583	123,355	124,127
Walk	1,157,467	1,173,398	1,189,330	1,204,618	1,219,905	1,235,193	1,250,481	1,265,769	1,279,930	1,294,092	1,308,253	1,322,414	1,336,576	1,349,604	1,362,633	1,375,661	1,388,690	1,401,718	1,413,028	1,424,338	1,435,647	1,446,957	1,458,267	1,467,453	1,476,638
Hike	7,882	7,991	8,099	8,203	8,308	8,412	8,516	8,620	8,716	8,813	8,909	9,006	9,102	9,191	9,279	9,368	9,457	9,546	9,623	9,700	9,777	9,854	9,931	9,993	10,056
Snorkel	53,206	53,938	54,670	55,373	56,076	56,778	57,481	58,184	58,835	59,486	60,137	60,788	61,439	62,038	62,636	63,235	63,834	64,433	64,953	65,473	65,993	66,513	67,032	67,455	67,877
Fishing	84,735	85,901	87,067	88,187	89,306	90,425	91,544	92,663	93,700	94,737	95,773	96,810	97,847	98,801	99,754	100,708	101,662	102,616	103,444	104,272	105,100	105,927	106,755	107,428	108,100
Non-recreation	356,181	361,084	365,987	370,691	375,395	380,100	384,804	389,509	393,867	398,224	402,582	406,940	411,298	415,307	419,316	423,325	427,335	431,344	434,824	438,304	441,785	445,265	448,745	451,572	454,399
Other	76,360	77,411	78,462	79,470	80,479	81,488	82,496	83,505	84,439	85,373	86,307	87,242	88,176	89,035	89,895	90,754	91,614	92,473	93,220	93,966	94,712	95,458	96,204	96,810	97,416

Monetary Account

Benefit	Indicator	Baseline year (\$)	25 year assessment (\$)	Notes
Fisheries	Total value - Spiny Lobster (<i>Panulirus argus</i>)	\$ 8,570,561	\$ 146,199,783	
	Total value - Queen Conch (<i>Strombus gigas</i>)	\$ 3,929,159	\$ 67,025,031	
	Total value - Scalefish (Mixed)	\$ 7,237,732	\$ 123,463,889	
	Total weight	\$ 19,737,452	\$ 336,688,704	
Agriculture	Sweet pepper	\$ 2,214	\$ 37,767	
	Tomato	\$ 4,802	\$ 81,921	
	Okra	\$ 33,049	\$ 563,769	
	Papaya	\$ 18,840	\$ 321,380	
	Sweet potato	\$ 2,570	\$ 43,847	
	Hot pepper	\$ 12,255	\$ 209,056	
	Pumpkin	\$ 1,200	\$ 20,470	
	Beans	\$ -	\$ -	
	Nesberyl (Sapodilla)	\$ -	\$ -	
	Callaloo	\$ -	\$ -	
	Cucumber	\$ 48,436	\$ 826,245	
	Soursop	\$ -	\$ -	
	Eggs	\$ 13,316	\$ 227,156	
	Total	\$ 136,684	\$ 2,331,612	
Coastal defence				
Surface hydrology				
Carbon sequestration	Value of carbon sequestration	\$ 31,286,873	\$ 740,560,581	
Tourism	Value of visitor nights ('Sun, Sea and Sand')	\$ 37,775,561	\$ 644,389,406	
	Value of visitor nights ('Honeymoon/Wedding')	\$ 17,055,584	\$ 290,940,429	
	Value of visitor nights ('Ocean sports')	\$ 4,334,747	\$ 73,943,703	
	Value of visitor nights ('Diving')	\$ 2,609,694	\$ 44,517,128	
	Value of visitor nights (Visiting friends and relatives)	\$ 1,091,461	\$ 18,618,537	
	Value of visitor nights (Business meeting, conference)	\$ 2,303,549	\$ 39,294,787	
	Value of visitor nights (Other)	\$ 4,211,883	\$ 71,847,856	
	Value of visitor dives	\$ 1,052,919	\$ 17,961,078	
	Value of cruise visits - passengers	\$ 3,152,998	\$ 53,784,995	
	Value of cruise visits - crew	\$ 886,319	\$ 15,119,151	
	Value of cruise line expenditure	\$ 1,212,565	\$ 20,684,380	
	Total	\$ 75,687,280	\$ 1,291,101,449	
Cultural + passive use	WTP for cultural services	\$ 4,022,071	\$ 77,344,619	
Recreational use	Value of recreation	\$ 3,570,190	\$ 68,697,459	

All prices in USD (\$)

S3 Monetary flow account
S3.1 Fisheries

The aggregate estimates produced from this worksheet should feed into the monetary account, the

Baseline (2018/2019)		
	Annual Value	25 year assessment
Total value - Spiny Lobster (Panulirus argus)	\$ 8,570,561	\$ 146,199,783
Total value - Queen Conch (Strombus gigas)	\$ 3,929,159	\$ 67,025,031
Total value - Scalefish (Mixed)	\$ 7,237,732	\$ 123,463,889
Total weight	\$ 19,737,452	\$ 336,688,704

Data						
ID	Description	Source	Value (2018\$)	Units	Data Year	Notes
3.1a	Price - Spiny Lobster (Panulirus)	Department		3.75 \$/lb	2018	Price paid to fishermen at landing - unprocessed meat. Data is used from previous fishing season.
3.1b	Price - Queen Conch (Strombus)	Department		1.75 \$/lb	2018	Price paid to fishermen at landing - unprocessed meat, shell removed. Data is used from previous fishing season.
	Price - Scalefish (Mixed)	DECR -		8.27 \$/kg	2011-2015	Price paid to fishermen at landing - unprocessed meat, original data year averaged 2011-2015
3.1c	Price - Scalefish (Mixed)	Calculation		8.81 \$/kg	2018	Original data year 2011-15, average of 2013 used to inflate to 2018 prices.
3.1d	Conversion	https://www.		1,000 kgs/tonne		
3.1e	Conversion	https://www.		2.20 lbs/kg		Price of spiny lobster and queen conch provided in lbs, therefore, need to convert to kg

Assumptions			
ID	Description	Source	Explanation
3.1f	Price for each species		Export and domestic price assumed to be equal (i.e. price at landing), price assumed as average of most recent 3 years report (2011-2013), and are assumed to

Steps			
Step	Description	Data/Assumpt	Explanation
3.1g	Convert data into baseline price	3.1a-c	For each variable with data sources not in baseline year \$, use US GDP deflator to convert original prices: original price multiplied by the ratio of the baseline GDP
3.1h	Convert prices from lb to kgs	3.1a-b, e	Convert price to kgs using conversion rate and apply price of spiny lobster and queen conch
3.1i	Calculate value for each	3.1a/b/c;	Convert price to tonnes using conversion rate and apply price of each species to quantity of each species
3.1j	Discount	Discount	Apply appropriate discount factor
	Net present value	NPV	Add discounted values to calculation 25 year net present value

Calculations - Annual value																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Discount Rate	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount Factor	1.00	1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.47	0.45	0.44
Export value - Spiny Lobst	1,978,519	1,816,075	1,754,662	1,695,325	1,637,995	1,582,604	1,529,086	1,477,378	1,427,418	1,379,148	1,332,510	1,287,450	1,243,913	1,201,848	1,161,206	1,121,938	1,083,998	1,047,341	1,011,924	977,704	944,642	912,697	881,833	852,013	823,201	795,363
Export value - Queen Con	1,385,780	1,473,589	1,423,757	1,375,611	1,329,093	1,284,147	1,240,722	1,198,765	1,158,227	1,119,060	1,081,218	1,044,655	1,009,328	975,196	942,219	910,356	879,571	849,827	821,089	793,323	766,496	740,575	715,532	691,335	667,957	645,369
Export value - Scalefish (A	75,197	75,502	72,948	70,482	68,098	65,795	63,570	61,421	59,344	57,337	55,398	53,525	51,715	49,966	48,276	46,644	45,066	43,542	42,070	40,647	39,273	37,945	36,661	35,422	34,224	33,066
Domestic value - Spiny Lo	7,852,989	6,754,486	6,526,074	6,305,385	6,092,160	5,886,145	5,687,096	5,494,779	5,308,965	5,129,435	4,955,976	4,788,382	4,626,456	4,470,006	4,318,847	4,172,799	4,031,690	3,895,352	3,763,625	3,636,353	3,513,384	3,394,574	3,279,782	3,168,872	3,061,712	2,958,175
Domestic value - Queen C	2,493,458	2,455,570	2,372,531	2,292,301	2,214,783	2,139,887	2,067,524	1,997,608	1,930,056	1,864,788	1,801,728	1,740,800	1,681,932	1,625,055	1,570,102	1,517,006	1,465,707	1,416,142	1,368,253	1,321,983	1,277,279	1,234,086	1,192,353	1,152,032	1,113,075	1,075,434
Domestic value - Scalefish	7,874,396	7,162,230	6,920,029	6,686,018	6,459,921	6,241,470	6,030,406	5,826,479	5,629,448	5,439,080	5,255,150	5,077,440	4,905,739	4,739,844	4,579,560	4,424,695	4,275,068	4,130,500	3,990,822	3,855,866	3,725,475	3,599,493	3,477,771	3,360,165	3,246,536	3,136,750

Calculations - 25 year NPV	
Export value - Spiny Lobst	30,979,273
Export value - Queen Con	25,137,017
Export value - Scalefish (A	1,287,935
Domestic value - Spiny Lo	115,220,511
Domestic value - Queen C	41,888,014
Domestic value - Scalefish	122,175,954

S3 Monetary flow account
S3.2 Agriculture

The aggregate estimates produced from this worksheet should feed into the monetary account, the

Baseline (2018/2019)		
	Annual Value	25 year assessment
Sweet pepper	\$ 2,214.0	\$ 37,767.2
Tomato	\$ 4,802.4	\$ 81,921.1
Okra	\$ 33,049.4	\$ 563,769.5
Papaya	\$ 18,840.0	\$ 321,379.6
Sweet potato	\$ 2,570.4	\$ 43,846.8
Hot pepper	\$ 12,255.4	\$ 209,056.4
Pumpkin	\$ 1,200.0	\$ 20,470.0
Beans	\$ -	\$ -
Nesberyl (Sapodilla)	\$ -	\$ -
Callaloo	\$ -	\$ -
Cucumber	\$ 48,436.4	\$ 826,245.3
Soursop	\$ -	\$ -
Eggs	\$ 13,316.4	\$ 227,156.0
Total	\$ 136,684.4	\$ 2,331,612.1

Data						
ID	Description	Source	Value (2018\$)	Units	Year	Notes
3.2a	Sweet pepper	Primary		1.23 \$/lbs	2018	Visit to major grocery store September 2018
3.2b	Tomato	Primary		1.74 \$/lbs	2018	Visit to major grocery store September 2018
3.2c	Okra	Primary		3.89 \$/lbs	2018	Visit to major grocery store September 2018
3.2d	Papaya	Primary		1.57 \$/each	2018	Visit to major grocery store September 2018
3.2e	Sweet potato	Primary		1.19 \$/lbs	2018	Visit to major grocery store September 2018
3.2f	Hot pepper	Primary		4.91 \$/lbs	2018	Visit to major grocery store September 2018
3.2g	Pumpkin	Primary		1.00 \$/lbs	2018	Visit to major grocery store September 2018
3.2h	Beans					No accurate price data was found for this item.
3.2i	Nesberyl (Sapodilla)					No accurate price data was found for this item.
3.2j	Callaloo					No accurate price data was found for this item.
3.2k	Cucumber	Primary		2.96 \$/each	2018	Visit to major grocery store September 2018
3.2l	Soursop					No accurate price data was found for this item.
3.2m	Eggs	Primary		36.99 \$/case	2018	Visit to major grocery store September 2018
3.2n	Weight conversion- Papaya	http://www.f		1.00 lbs/unit		Weight of a papaya = 1 lbs (converted from 0.400g for size code C)
3.2o	Weight conversion- Cucumber	https://hann		0.44 lbs/unit		Weight of a cucumber = 0.44 lbs (converted from 0.201 g for a medium cuc

Assumptions			
ID	Description	Source	Explanation
3.2p	Stable prices for produce		The prices paid for produce are assumed to remain stable over the assessment period

Steps			
Step	Description	Data/Assumpt	Explanation
3.2q	If produce is per item, apply wei	3.2d/k/m	Apply price for each type of produce to respective quantities for each type of produce, where required divide by weight conversion to get price unit (i.e. lbs
3.2r	Calculate value for each type of	3.2a-c; 3.2e-g	Apply price for each type of produce to respective quantities for each type of produce
3.2s	Discount	Discount facto	Apply appropriate discount factor
3.2t	Net present value	NPV	Add discounted values to caluation 25 year net present value

Calculations - Annual value																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	0	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Discount Rate	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount Factor	1.00	1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.47	0.45	0.44
Sweet pepper	2214	2,214	2,139	2,067	1,997	1,929	1,864	1,801	1,740	1,681	1,624	1,570	1,516	1,465	1,416	1,368	1,322	1,277	1,234	1,192	1,152	1,113	1,075	1,039	1,004	970
Tomato	4802	4,802	4,640	4,483	4,331	4,185	4,043	3,907	3,775	3,647	3,524	3,405	3,289	3,178	3,071	2,967	2,867	2,770	2,676	2,585	2,498	2,414	2,332	2,253	2,177	2,103
Okra	33049	33,049	31,932	30,852	29,809	28,801	27,827	26,886	25,977	25,098	24,249	23,429	22,637	21,872	21,132	20,417	19,727	19,060	18,415	17,793	17,191	16,610	16,048	15,505	14,981	14,474
Papaya	18840	18,840	18,203	17,587	16,993	16,418	15,863	15,326	14,808	14,307	13,823	13,356	12,904	12,468	12,046	11,639	11,245	10,865	10,498	10,143	9,800	9,468	9,148	8,839	8,540	8,251
Sweet potato	2570	2,570	2,483	2,399	2,318	2,240	2,164	2,091	2,020	1,952	1,886	1,822	1,761	1,701	1,644	1,588	1,534	1,482	1,432	1,384	1,337	1,292	1,248	1,206	1,165	1,126
Hot pepper	12255	12,255	11,841	11,441	11,054	10,680	10,319	9,970	9,633	9,307	8,992	8,688	8,394	8,110	7,836	7,571	7,315	7,068	6,829	6,598	6,375	6,159	5,951	5,750	5,555	5,367
Pumpkin	1200	1,200	1,159	1,120	1,082	1,046	1,010	976	943	911	880	851	822	794	767	741	716	692	669	646	624	603	583	563	544	526
Beans	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nesberyl (Sapodilla)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Callaloo	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cucumber	48436	48,436	46,798	45,216	43,687	42,209	40,782	39,403	38,071	36,783	35,539	34,337	33,176	32,054	30,970	29,923	28,911	27,934	26,989	26,076	25,194	24,342	23,519	22,724	21,956	21,213
Soursop	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Eggs	13316	13,316	12,866	12,431	12,011	11,604	11,212	10,833	10,467	10,113	9,771	9,440	9,121	8,813	8,515	8,227	7,948	7,680	7,420	7,169	6,927	6,692	6,466	6,247	6,036	5,832

Calculations - 25 year NPV	
Sweet pepper	37,767
Tomato	81,921
Okra	563,769
Papaya	321,380
Sweet potato	43,847
Hot pepper	209,056
Pumpkin	20,470
Beans	0
Nesberyl (Sapodilla)	0
Callaloo	0
Cucumber	826,245
Soursop	0
Eggs	227,156

S3 Monetary flow account
S3.5 Carbon sequestration

The aggregate estimates produced from this worksheet should feed into the monetary account, the balance sheet, the asset value summary.

Baseline (2018/2019)		Annual Value (\$/tCO2e 25 year assessment (\$/tCO2e)	
Value of carbon sequestration			
Forest	\$ 6,439,838.73	\$ 152,431,043.00	
Woodland	\$ 24,847,034.43	\$ 588,129,537.65	
Shrubland	\$ -	\$ -	
Dwarf Shrubland	\$ -	\$ -	
Herbaceous	\$ -	\$ -	
Non-vascular	\$ -	\$ -	
Human altered	\$ -	\$ -	
Total	\$ 31,286,873.16	\$ 740,560,580.65	

ID	Description	Source	Value	Units	Year	Notes
3.5a	Non-traded carbon prices 2017 £/tCO2	Department for Business, Energy & Industrial Str		See Carbon prices £ tab		2018
3.5b	US \$ to £ exchange rate	HMRC average exchange rate 2018 https://www		0.74		2018 average
3.5c	UK GDP per capita	http://data.un.org/Data.aspx?q=united+kingdom		39,758	USD \$	2017
3.5d	TCI GDP per capita	http://data.un.org/Data.aspx?q=turks+and+caico		28,689	USD \$	2017
3.5e	UK : TCI ratio	Calculation		1.39	Proportion	2017

ID	Description	Source	Explanation
3.5f	Constant GDP ratio		Due to data unavailability on GDP per capita for Montserrat for 2018, we assume GDP ratio is constant post-2017

Step	Description	Data/Assumptions used	Explanation
3.5g	Convert carbon prices from 2017 to 2018	3.5a	Converted in carbon prices tab
3.5h	Convert carbon prices from £ to \$	3.5a/b	Use exchange rate to convert £ to \$
3.5i	Convert carbon price by UK : TCI GDP	3.5c-e	Use UK:ratio ratio to reflect TCI purchasing ability.
3.5j	Calculate carbon sequestration value	3.5a, c/d	Multiple carbon value \$ to the tCO2 for woodland and forest habitat areas
3.5k	Discount factor	Discount factor	Apply the appropriate discount
3.5l	Net present value	NPV	Add discounted values to calculation 25 year net present value

Calculations - Annual value																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Discount Rate		3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	
Discount Factor		1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.47	0.45	0.44
Carbon price (£)		67	68	69	71	72	73	74	75	76	77	79	80	81	88	96	103	111	119	126	134	141	149	156	164	171
Carbon price (\$)		90	92	93	95	96	98	99	101	103	104	106	107	109	119	129	139	149	159	169	179	190	200	210	220	230
Carbon prices (adjusted for GDP per capita)		65	66	67	68	70	71	72	73	74	75	76	77	78	86	93	100	108	115	122	129	137	144	151	159	166
Forest		6,439,839	6,315,397	6,193,361	6,083,655	5,974,287	5,865,359	5,756,966	5,649,197	5,542,133	5,435,850	5,330,418	5,225,900	5,122,355	5,408,698	5,669,817	5,907,090	6,121,833	6,315,296	6,488,675	6,643,106	6,779,672	6,899,405	7,003,287	7,092,253	7,167,194
Woodland		24,847,034	24,366,899	23,896,041	23,472,761	23,050,783	22,630,502	22,212,287	21,796,477	21,383,389	20,973,314	20,566,520	20,163,255	19,763,745	20,868,550	21,876,034	22,791,514	23,620,062	24,366,509	25,035,461	25,631,306	26,158,223	26,620,192	27,021,003	27,364,265	27,653,412
Shrubland																										
Dwarf Shrubland																										
Herbaceous																										
Non-vascular																										
Human altered																										

Calculations - 25 year NPV	
Forest	152,431,043
Woodland	588,129,538
Shrubland	0
Dwarf Shrubland	0
Herbaceous	0
Non-vascular	0
Human altered	0
Total	740,560,581

S3 Monetary flow account
S3.6 Tourism

The aggregate estimates produced from this worksheet should feed into the monetary account, the balance sheet, the asset value summary.

	Annual Value	25 yr PV
Value of visitor nights (Sun, Sea and Sand)	\$ 37,775,561	\$ 644,389,406
Value of visitor nights (Honeymoon/Wedding)	\$ 17,055,584	\$ 290,940,429
Value of visitor nights (Ocean sports)	\$ 4,334,747	\$ 73,943,703
Value of visitor nights (Diving)	\$ 2,609,694	\$ 44,517,128
Value of visitor nights (Visiting friends and relatives)	\$ 1,091,461	\$ 18,618,537
Value of visitor nights (Business meeting, conference)	\$ 2,303,549	\$ 39,294,787
Value of visitor nights (Other)	\$ 4,211,883	\$ 71,847,856
Value of visitor dives	\$ 1,052,919	\$ 17,961,078
Value of cruise visits - passengers	\$ 3,152,998	\$ 53,784,995
Value of cruise visits - crew	\$ 886,319	\$ 15,119,151
Value of cruise line expenditure	\$ 1,212,565	\$ 20,684,380
Total	\$ 75,687,280	\$ 1,291,101,449

ID	Description	Source	Value (2018)	Units	Data Year	Notes
3.6a	Cruise passenger onshore visitor expenditure per passenger TCI	Economic		88.60 \$/visit	2015	Includes all expenditure (i.e. spend in shops at port)
3.6b	Average visitor spend shore excursions	Economic		23.29 \$/visit	2015	Average of all cruise passengers
3.6c	Crew visitor spend	Economic		50.32 \$/visit	2015	
3.6d	Cruise line expenditure in TCI - Total	Economic		9,700,520.30 \$ total	2016	
3.6e	Expenditure by main purpose of visit - Diving (direct - diving)	Economic		46.80 \$/dive	2003	
3.6f	Factor of Ecosystem Dependence - Accommodation	Tourism value		50.00% percent		See factor of ecosystem dependence in report
3.6g	Factor of Ecosystem Dependence - Meals	Tourism value		25.00% percent		See factor of ecosystem dependence in report
3.6h	Factor of Ecosystem Dependence - Taxi/car rental	Tourism value		50.00% percent		See factor of ecosystem dependence in report
3.6i	Factor of Ecosystem Dependence - Tours/excursions	Tourism value		100.00% percent		See factor of ecosystem dependence in report
3.6j	Factor of Ecosystem Dependence - Diving	Tourism value		100.00% percent		See factor of ecosystem dependence in report
3.6k	Factor of Ecosystem Dependence - Entertainment/recreation	Tourism value		50.00% percent		See factor of ecosystem dependence in report
3.6l	Factor of Ecosystem Dependence - Shopping	Tourism value		25.00% percent		See factor of ecosystem dependence in report
3.6m	Factor of Ecosystem Dependence - All other spending	Tourism value		50.00% percent		See factor of ecosystem dependence in report
3.6n	Estimate of the Value Added by the Tourism sector	Tourism value		25.00% percent		

ID	Description	Accommodation	Meals	Taxi / car rental	Tours /	Entertainment	Shopping	All other spend	Units	Data Year	Sources	Notes
3.6o	Expenditure by main purpose of visit - Sun, sea, sand	156.95	30.67	9.02	10.85	5.82	6.85	3.46	\$/visitor/day	2017	Departing visitors survey -	Should be updated in March
3.6p	Expenditure by main purpose of visit - Honeymoon / Wedding	245.84	19.42	5.92	6.58	7.05	6.11	5.13	\$/visitor/day	2017	Departing visitors survey -	Should be updated in March
3.6q	Expenditure by main purpose of visit - Sports	75.88	18.15	3.99	16.74	2.78	3.49	1.86	\$/visitor/day	2017	Departing visitors survey -	Should be updated in March
3.6r	Expenditure by main purpose of visit - Visiting friends and relatives	75.34	5.89	1.07	0.00	3.99	0.00	4.96	\$/visitor/day	2017	Departing visitors survey -	Should be updated in March
3.6s	Expenditure by main purpose of visit - Business meeting, conference	136.73	34.32	8.42	5.77	5.31	4.92	0.00	\$/visitor/day	2017	Departing visitors survey -	Should be updated in March
3.6t	Expenditure by main purpose of visit - Other (average of other categories)	138.15	21.69	5.69	7.99	4.99	4.28	3.08	\$/visitor/day	2017	Departing visitors survey -	Should be updated in March

ID	Description	Source	Value	Units	Year	Notes
3.6u	NC contribution to tourism (P5) - Sun, sea, sand	Calculated#		26.97 \$/visit/day	2018	
3.6v	NC contribution to tourism (P5) - Honeymoon / Wedding	Calculated#		36.23 \$/visit/day	2018	
3.6w	NC contribution to tourism (P5) - Sports	Calculated#		16.10 \$/visit/day	2018	
3.6x	NC contribution to tourism (P5) - Visiting friends and relatives	Calculated#		11.04 \$/visit/day	2018	
3.6y	NC contribution to tourism (P5) - Business meeting, conference	Calculated#		22.70 \$/visit/day	2018	
3.6z	NC contribution to tourism (P5) - Other (average of other categories)	Calculated#		22.61 \$/visit/day	2018	

ID	Description	Source	Explanation
3.6ab	Factor of ecosystem dependence	Tourism value	Assumed factor of ecosystem dependence follows approach previously adopted in region
3.6ac	Value added by the tourism sector	Tourism value	Assumed value added for the tourism sector follows approach previously adopted in the region

Step	Description	Data/Assumpt/ Explanation
3.6ad	Convert data into baseline prices	3.6a-e/o For each variable with data sources not in baseline year \$, use US GDP deflator to convert original prices: original price multiplied by the ratio of the baseline GDP deflator to the year price
3.6ae	Calculate value of producer surplus attributable to NC	3.6f - 3.6n; 3.6 For each category of visit, multiply each category of spend by the relative factor of ecosystem dependence for that category of spend
3.6af	Calculate value of visitor spend attributable to NC for each type of overnight	3.6r - 3.6ab Multiply number of visitor night by NC contribution to tourism for each category of visitor
3.6ag	Calculate NC contribution to diving	3.6e; 3.6j; 3.6i Multiply estimated number of dives by cost of dive, factor of ecosystem dependence for diving and value added by tourism sector
3.6ah	Calculate value of cruise visits	3.6b/c; 3.6l/m Multiply number of visits by average spend, factor of ecosystem dependence and value added by tourism sector
3.6ai	Calculate value of cruise line expenditure	3.6d; 3.6m; Multiply cruise line expenditure by factor of ecosystem dependence and value added by tourism sector
3.6aj	Discount	Discount Apply appropriate discount factor
3.6ak	Net present value	NPV Add discounted values to calculate 25 year net present value

Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Discount Rate	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount Factor	1.00	1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.47	0.45	0.44
Value of visitor nights per year (Sun, Sea and Sand)	34874006	37,775,561	36,498,127	35,263,890	34,071,392	32,919,219	31,806,009	30,730,443	29,691,249	28,687,198	27,717,099	26,779,806	25,874,209	24,999,235	24,153,851	23,337,054	22,547,878	21,785,389	21,048,685	20,336,894	19,649,173	18,984,708	18,342,713	17,722,428	17,123,119	16,544,076
Value of visitor nights per year (Honeymoon/Wedding)	15751018	17,055,584	16,478,826	15,921,571	15,383,160	14,862,956	14,360,344	13,874,729	13,405,535	12,952,208	12,514,211	12,091,025	11,682,149	11,287,101	10,905,412	10,536,629	10,180,318	9,836,056	9,503,436	9,182,064	8,871,559	8,571,555	8,281,696	8,001,638	7,731,051	7,469,615
Value of visitor nights per year (Ocean sports)	4001793	4,334,747	4,188,161	4,046,532	3,909,693	3,777,481	3,649,740	3,526,319	3,407,072	3,291,857	3,180,538	3,072,984	2,969,066	2,868,663	2,771,655	2,677,928	2,587,370	2,499,874	2,415,337	2,333,659	2,254,743	2,178,496	2,104,827	2,033,649	1,964,878	1,898,433
Value of visitor nights per year (Diving)	2409243	2,609,694	2,521,444	2,436,178	2,353,795	2,274,198	2,197,293	2,122,988	2,051,196	1,981,832	1,914,814	1,850,062	1,787,499	1,727,052	1,668,649	1,612,222	1,557,702	1,505,026	1,454,132	1,404,958	1,357,447	1,311,543	1,267,192	1,224,340	1,182,937	1,142,934
Value of visitor nights per year (Visiting friends and relatives)	1007625	1,091,461	1,054,551	1,018,890	984,435	951,145	918,981	887,904	857,878	828,868	800,838	773,757	747,591	722,310	697,884	674,285	651,483	629,452	608,166	587,600	567,729	548,531	529,982	512,059	494,743	478,013
Value of visitor nights per year (Business meeting, conference)	2126613	2,303,549	2,225,651	2,150,388	2,077,669	2,007,410	1,939,526	1,873,939	1,810,569	1,749,342	1,690,185	1,633,029	1,577,806	1,524,450	1,472,899	1,423,091	1,374,967	1,328,470	1,283,546	1,240,141	1,198,204	1,157,685	1,118,536	1,080,711	1,044,166	1,008,856
Value of visitor nights per year (Other)	3888801	4,211,883	4,069,453	3,931,838	3,798,878	3,670,413	3,546,293	3,426,370	3,310,502	3,198,553	3,090,389	2,985,883	2,884,911	2,787,354	2,693,096	2,602,025	2,514,034	2,429,018	2,346,877	2,267,514	2,190,835	2,116,749	2,045,168	1,976,008	1,909,186	1,844,624
Value of visitor dives per year	1029698	1,052,919	1,017,313	982,911	949,673	917,558	886,529	856,550	827,585	799,599	772,559	746,434	721,192	696,804	673,241	650,474	628,477	607,225	586,690	566,851	547,682	529,161	511,267	493,978	477,273	461,133
Value of cruise visits - passengers	2768822	3,152,998	3,046,375	2,943,357	2,843,823	2,747,655	2,654,740	2,564,966	2,478,228	2,394,423	2,313,452	2,235,219	2,159,632	2,086,601	2,016,040	1,947,865	1,881,995	1,818,352	1,756,862	1,697,451	1,640,050	1,584,589	1,531,004	1,479,231	1,429,209	1,380,878
Value of cruise visits - crew	914616	886,319	856,347	827,388	799,409	772,376	746,257	721,021	696,639	673,081	650,320	628,328	607,080	586,551	566,716	547,552	529,035	511,145	493,860	477,160	461,024	445,434	430,371	415,817	401,756	388,170
Value of cruise line expenditure	1261022	1,212,565	1,171,560	1,131,942	1,093,664	1,056,680	1,020,947	986,422	953,065	920,836	889,697	859,610	830,541	802,455	775,319	749,101	723,769	699,293	675,646	652,798	630,723	609,394	588,786	568,876	549,638	531,052

Calculations - 25 year NPV	
Value of visitor nights (Sun, Sea and Sand)	644,389,406
Value of visitor nights (Honeymoon/Wedding)	290,940,429
Value of visitor nights (Ocean sports)	73,943,703
Value of visitor nights (Diving)	44,517,128
Value of visitor nights (Visiting friends and relatives)	18,618,537
Value of visitor nights (Business meeting, conference)	39,294,787
Value of visitor nights (Other)	71,847,856
Value of visitor dives	17,961,078
Value of cruise visits - passengers	53,784,995
Value of cruise visits - crew	15,119,151
Value of Cruise line expenditure	20,684,380

S3. Monetary flow account
S3.7 Cultural and passive use

The aggregate estimates produced from this worksheet should feed into the monetary account, the balance sheet, the asset value summary.

Baseline (2018/2019)		
	Annual Value	25 year assessment
Total WTP for cultural services	\$ 4,022,070.7	\$ 77,344,618.9

Data						
ID	Description	Source	Value (2018\$)	Units	Data Year	Notes
3.7a	WTP for cultural services (generalised)	Multiple studies as		192 US\$/person/year	2003	Average value for cultural/passive values - meta-analysis of estuarine and
3.7b	WTP for cultural services (inflated)	Calculations		256 US\$/person/year	2018	
3.7c	TCI PPP per capita	https://www.index		29100 US\$/person/year	2007	
3.7d	TCI PPP per capita	Calculations		34731 US\$/person/year	2017	
3.7e	USA PPP per capita	https://www.index		59500 US\$/person/year	2017	

Assumptions			
ID	Description	Source	Explanation
3.7f	Value of cultural services		The value applied is a catch-all WTP for cultural services transferred from a meta-analysis, as such it is not TCI specific and is used as a proxy value for this service
3.7g	GDP deflator		The US \$ GDP deflator has been used as original data year goes beyond TCI deflator.

Steps			
Step	Description	Data/Assumptions	Explanation
3.7h	Convert data into baseline prices	3.5a/b	For each variable with data sources not in baseline year \$, use US GDP deflator to convert original prices: original price multiplied by the ratio of the baseline GDP defla
3.7i	Calculate total WTP	3.6a; 3.6b; 3.6c	Apply WTP transfer value, adjusted by the relative PPP between USA and TCI, to the total population of TCI
3.7j	Discount	Discount factor	Apply appropriate discount factor
3.7k	Net present value	NPV	Add discounted values to valuation 25 year net present value

Calculations - Annual value																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Discount Rate		3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount Factor		1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.47	0.45	0.44
Value of cultural services for local population		4,022,071	3,939,547	3,858,005	3,727,541	3,694,077	3,613,885	3,534,893	3,457,110	3,377,573	3,299,462	3,222,771	3,147,494	3,073,623	2,998,632	2,925,197	2,853,300	2,782,921	2,714,038	2,643,417	2,574,468	2,507,160	2,441,460	2,377,336	2,311,411	2,247,227

Calculations - 25 year NPV	
Value of cultural services for local	77,344,619

S3. Monetary flow account

S3.8 Recreational use

The aggregate estimates produced from this worksheet should feed into the monetary account, the balance sheet, the asset value summary.

Baseline (2018/2019)		
	Annual Value	25 year assessment
Total WTP for local recreation	\$ 3,570,189.9	\$ 68,697,459.1

Data						
ID	Description	Source	Value (2018\$)	Units	Data Year	Notes
3.8a	Money spent per visit	Boating	2018 Student Survey	3249 US\$/year	2018	
3.8b	Money spent per visit	Kayaking	2018 Student Survey	55 US\$/year	2018	
3.8c	Money spent per visit	Swim	2018 Student Survey	1005 US\$/year	2018	
3.8d	Money spent per visit	Walk	2018 Student Survey	266 US\$/year	2018	
3.8e	Money spent per visit	Hike	2018 Student Survey	20 US\$/year	2018	
3.8f	Money spent per visit	Snorkel	2018 Student Survey	22 US\$/year	2018	
3.8g	Money spent per visit	Fishing	2018 Student Survey	972 US\$/year	2018	
3.8h	Money spent per visit	Non-recreation	2018 Student Survey	1610 US\$/year	2018	
3.8i	Money spent per visit	Other	2018 Student Survey	50 US\$/year	2018	Includes basketball, biking, bird watching, scuba, whale watching, softball, track, gym, stargazing, electric scooter
3.8j	Average spend per visit	Boating	2018 Student Survey	11.09 US\$/person/year	2018	
3.8k	Average spend per visit	Kayaking	2018 Student Survey	1.21 US\$/person/year	2018	
3.8l	Average spend per visit	Swim	2018 Student Survey	5.09 US\$/person/year	2018	
3.8m	Average spend per visit	Walk	2018 Student Survey	0.11 US\$/person/year	2018	
3.8n	Average spend per visit	Hike	2018 Student Survey	1.25 US\$/person/year	2018	
3.8o	Average spend per visit	Snorkel	2018 Student Survey	0.20 US\$/person/year	2018	
3.8p	Average spend per visit	Fishing	2018 Student Survey	5.65 US\$/person/year	2018	
3.8q	Average spend per visit	Non-recreation	2018 Student Survey	2.23 US\$/person/year	2018	
3.8r	Average spend per visit	Other	2018 Student Survey	0.32 US\$/person/year	2018	Includes basketball, biking, bird watching, scuba, whale watching, softball, track, gym, stargazing, electric scooter

Assumptions			
ID	Description	Source	Explanation
3.8s	Value of recreation services		Each trip costs the same for all residents

Steps			
Step	Description	Data/Assumptions	Explanation
3.8t	Calculate average spend per visit	3.6a - i, 2.6k - s	For each activity, divide the money spent per visit but the average frequency of visits
3.8u	Calculate total WTP for each activity	3.8j - 3.8r	For each activity, multiply the average frequency of visits (which has been aggregated to the total population) by average spend per visit
3.8v	Discount	Discount factor	Apply appropriate discount factor
	Net present value	NPV	Add discounted values to valuation 25 year net present value

Calculations - Annual value																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Discount Rate		3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
Discount Factor		1.00	0.97	0.93	0.90	0.87	0.84	0.81	0.79	0.76	0.73	0.71	0.68	0.66	0.64	0.62	0.60	0.58	0.56	0.54	0.52	0.50	0.49	0.47	0.45	0.44
Value of boating		1,600,354	1,567,518	1,535,073	1,502,227	1,469,847	1,437,939	1,406,509	1,375,560	1,343,912	1,312,833	1,282,318	1,252,366	1,222,973	1,193,134	1,163,915	1,135,308	1,107,304	1,079,897	1,051,797	1,024,363	997,581	971,440	945,925	919,694	894,156
Value of kayaking		27,095	26,539	25,990	25,434	24,886	24,346	23,813	23,289	22,754	22,227	21,711	21,204	20,706	20,201	19,706	19,222	18,748	18,284	17,808	17,343	16,890	16,447	16,015	15,571	15,139
Value of swim		494,861	484,707	474,675	464,518	454,506	444,639	434,920	425,350	415,564	405,954	396,518	387,256	378,167	368,941	359,905	351,060	342,400	333,925	325,236	316,753	308,472	300,388	292,499	284,388	276,490
Value of walk		131,043	128,355	125,698	123,008	120,357	117,744	115,170	112,636	110,045	107,500	105,001	102,549	100,142	97,699	95,306	92,963	90,670	88,426	86,125	83,879	81,686	79,545	77,456	75,308	73,217
Value of hike		9,853	9,651	9,451	9,249	9,049	8,853	8,659	8,469	8,274	8,083	7,895	7,710	7,529	7,346	7,166	6,990	6,817	6,649	6,476	6,307	6,142	5,981	5,824	5,662	5,505
Value of snorkel		10,592	10,375	10,160	9,942	9,728	9,517	9,309	9,104	8,895	8,689	8,487	8,289	8,094	7,897	7,703	7,514	7,329	7,147	6,961	6,780	6,602	6,429	6,261	6,087	5,918
Value of fishing		478,603	468,784	459,081	449,258	439,574	430,032	420,632	411,376	401,912	392,617	383,491	374,534	365,744	356,820	348,082	339,526	331,152	322,955	314,552	306,347	298,338	290,520	282,889	275,045	267,407
Value of non-recreation		793,157	776,883	760,803	744,524	728,476	712,662	697,085	681,746	666,061	650,657	635,534	620,689	606,122	591,333	576,852	562,674	548,795	535,211	521,285	507,688	494,415	481,458	468,813	455,813	443,155
Value of other		24,632	24,127	23,627	23,122	22,623	22,132	21,649	21,172	20,685	20,207	19,737	19,276	18,824	18,364	17,915	17,474	17,043	16,621	16,189	15,767	15,354	14,952	14,559	14,156	13,763

Calculations - 25 year NPV	
Value of boating	30,793,942
Value of kayaking	521,369
Value of swim	9,522,092
Value of walk	2,521,529
Value of hike	189,589
Value of snorkel	203,808
Value of fishing	9,209,270
Value of non-recreation	15,261,889
Value of other	473,972

S2 Physical flow account Carbon Storage

The aggregate estimate of energy generation capacity on TCI from this worksheet provides the basis for the estimation of monetary value in S3.8.

Baseline (2018/2019)			
	Annual	Units	25 year assesment
Carbon release avoided due to natural capital			
Forest	119,841	tCO2e/yr	119,841 tCO2e
Woodland	462,388	tCO2e/yr	462,388 tCO2e
Shrubland	412,637	tCO2e/yr	412,637 tCO2e
Dwarf Shrubland	307,705	tCO2e/yr	307,705 tCO2e
Herbaceous	-	-	-
Non-vascular	-	-	-
Human altered	-	-	-
Total	1,302,572	tCO2e/yr	1,302,572 tCO2e

Data										
ID	Description	Source	Value				Note			
2.5a	Carbon storage values for TCI habitats		BVI Habitat	Ranking	TCI Habitat	Area (ha)	Carbon storage	Unit		
		Adapted from BVI carbon storage	Evergreen Forest	15	Forest	5,024	65	Mg C Ha-1	1 Mg = 1 tonne	
		Adapted from BVI carbon storage	Evergreen Forest	15	Woodland	19,383	65	Mg C Ha-1	1 Mg = 1 tonne	
		Adapted from BVI carbon storage	Scrub	10	Shrubland	22,487	50	Mg C Ha-1	1 Mg = 1 tonne	
		Adapted from BVI carbon storage	Scrub	10	Dwarf	16,769	50	Mg C Ha-1	1 Mg = 1 tonne	
		Adapted from BVI carbon storage	Grassland	8	Herbaceous	7,412	43	Mg C Ha-1	1 Mg = 1 tonne	
		Adapted from BVI carbon storage	Salt Pond	6	Non-Vascular	23,020	35	Mg C Ha-1	1 Mg = 1 tonne	
		Adapted from BVI carbon storage	Urban	4	Human Altered	5,678	20	Mg C Ha-1	1 Mg = 1 tonne	
2.5b	% change in C soil stocks after land management change	Assuming that land management changes soil C stocks by -10% over 10 years, with a constant slope of	0.1							
2.5c	tC to tCO2e conversion factor	Department for Business, Energy & Industrial Strategy	3.67							

Assumptions										
ID	Description	Explanation								
2.5d	Carbon storage in biomass	It is assumed carbon storage in soils is the same as carbon storage in biomass								
2.5e	Change in soil carbon stocks	Guo and Gifford (2002) estimate changes in soil carbon stocks to range from -10% to +53% as a result of various land management decisions. Due to uncertainty regarding TCI land management changes, a conservative estimate of this range was used.								
2.5f	Frequency of soil carbon stock avoided loss	Land management changes soil C stocks by -10% only in the first year.								
2.5g	Only forest, woodland, shrubland, and dwarf shrubland habitats are affected by land management changes									
2.5	Land management assumed to remain constant over									

Steps										
Step	Description	Data/Assumptions used	Explanation							
2.5h	Rank habitat type	2.5a	Use the BVI method to rank the TCI habitats.							
2.5i	Apply carbon storage values	2.5a	The carbon storage values from SAERI were ranked using the scale from BVI.							
2.5j	Convert tC to tCO2e	2.5a/b	Convert carbon values from tC to tCO2e							
2.5k	Calculate the avoided carbon storage loss	2.5a/c	Multiply each habitat by the carbon storage estimate and then multiple by the change in carbon stocks as a result of land management change.							

Calculations - Annual																										
Year (chron)	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042
Year (project)	-1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Carbon release avoided due to NC (tCO2e/yr)																										
Forest		119,841	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Woodland		462,388	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Shrubland		412,637	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dwarf Shrubland		307,705	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Herbaceous		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Non-vascular		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Human altered		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Calculations - 25 year assessment	
Forest	119,841
Woodland	462,388
Shrubland	412,637
Dwarf Shrubland	307,705
Herbaceous	0
Non-vascular	0
Human altered	0
Total	1,302,572

Table 3: Carbon prices and sensitivities 2010-2100 for appraisal, 2017 £/tCO₂e

	Traded			Non-traded		
	Low	Central	High	Low	Central	High
2010	14	14	14	29	59	88
2011	12	12	12	30	60	89
2012	6	6	6	30	60	91
2013	4	4	4	31	61	92
2014	5	5	5	31	62	93
2015	6	6	6	32	63	95
2016	4	4	4	32	64	96
2017	0	4	5	33	65	98
2018	0	4	7	33	66	99
2019	0	4	8	34	67	101
2020	0	5	10	34	68	102
2021	4	12	21	35	69	104
2022	8	20	32	35	70	106
2023	12	27	43	36	71	107
2024	16	34	54	36	73	109
2025	20	42	64	37	74	111
2026	23	49	75	37	75	112
2027	27	57	86	38	76	114
2028	31	64	97	39	77	116
2029	35	72	108	39	78	117
2030	40	79	119	40	79	119
2031	43	87	130	43	87	130
2032	47	94	141	47	94	141
2033	51	102	152	51	102	152
2034	54	109	163	54	109	163
2035	58	116	174	58	116	174
2036	62	124	186	62	124	186
2037	66	131	197	66	131	197
2038	69	138	208	69	138	208
2039	73	146	219	73	146	219
2040	77	153	230	77	153	230
2041	80	161	241	80	161	241
2042	84	168	252	84	168	252
2043	88	175	263	88	175	263
2044	91	183	274	91	183	274
2045	95	190	285	95	190	285
2046	99	197	296	99	197	296
2047	102	205	307	102	205	307
2048	106	212	318	106	212	318
2049	110	220	329	110	220	329
2050	113	227	340	113	227	340
2051	116	235	354	116	235	354
2052	119	243	367	119	243	367
2053	122	251	380	122	251	380
2054	124	258	393	124	258	393
2055	126	266	406	126	266	406
2056	129	274	419	129	274	419
2057	131	281	431	131	281	431
2058	133	288	444	133	288	444
2059	134	295	456	134	295	456
2060	136	302	468	136	302	468
2061	137	307	478	137	307	478
2062	138	313	488	138	313	488
2063	138	318	497	138	318	497
2064	139	322	506	139	322	506
2065	139	326	514	139	326	514
2066	139	330	522	139	330	522
2067	138	334	529	138	334	529
2068	138	337	535	138	337	535
2069	137	339	541	137	339	541
2070	137	342	546	137	342	546
2071	136	344	552	136	344	552
2072	135	346	556	135	346	556
2073	134	347	561	134	347	561
2074	132	348	564	132	348	564
2075	131	349	567	131	349	567
2076	129	349	569	129	349	569
2077	127	349	571	127	349	571
2078	126	349	572	126	349	572
2079	124	348	573	124	348	573
2080	121	347	572	121	347	572
2081	120	347	574	120	347	574
2082	118	346	574	118	346	574
2083	116	345	574	116	345	574
2084	113	344	574	113	344	574
2085	111	343	574	111	343	574
2086	109	341	572	109	341	572
2087	107	339	571	107	339	571
2088	104	337	569	104	337	569
2089	102	334	566	102	334	566
2090	100	332	564	100	332	564
2091	97	330	562	97	330	562
2092	95	328	560	95	328	560
2093	93	325	557	93	325	557
2094	90	322	554	90	322	554
2095	88	319	551	88	319	551
2096	85	316	547	85	316	547
2097	83	314	544	83	314	544
2098	81	310	540	81	310	540
2099	78	307	536	78	307	536
2100	76	304	532	76	304	532

Carbon prices inflated to 2018 prices, 2018£/tCO₂e

Uplift factor 1.018980551

	Non-traded (2018£)	
	Low	Central
2017	66	
2018	67	
2019	68	
2020	69	
2021	71	
2022	72	
2023	73	
2024	74	
2025	75	
2026	76	
2027	77	
2028	79	
2029	80	
2030	81	
2031	88	
2032	96	
2033	103	
2034	111	
2035	119	
2036	126	
2037	134	
2038	141	
2039	149	
2040	156	
2041	164	
2042	171	
2043	179	
2044	186	
2045	194	
2046	201	
2047	209	
2048	216	
2049	224	
2050	231	
2051	239	
2052	247	
2053	255	
2054	263	
2055	271	
2056	279	
2057	286	
2058	294	
2059	301	
2060	308	
2061	313	
2062	319	
2063	324	
2064	328	
2065	333	
2066	337	
2067	340	
2068	343	
2069	346	
2070	348	
2071	350	
2072	352	
2073	354	
2074	355	
2075	356	
2076	356	
2077	356	
2078	355	
2079	355	
2080	353	
2081	353	
2082	353	
2083	351	
2084	350	
2085	349	
2086	347	
2087	345	
2088	343	
2089	341	
2090	338	
2091	336	
2092	334	
2093	331	
2094	328	
2095	325	
2096	322	
2097	320	
2098	316	
2099	313	
2100	310	

Source: BEIS modelling

Green Book supplementary guidance section of GOV.UK webpage:

For further details on carbon valuation, see:
<https://www.gov.uk/government/collections/carbon-valuation--2>

$$\text{GDP deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

In current prices		In constant (2000) prices		GDP deflator
GDP at Market Prices		GDP at Market Prices		
2000	319,443.33			
2001	358,744.80			
2002	366,707.91			
2003	409,753.64			
2004	485,598.81			
2005	578,645.76			
2006	721,891.47			
2007	773,489.74			
2008	862,683.63			
2009	703,175.75			
2010	686,787.81			
2011	728,789.57			
2012	715,722.77	2012	538,335	133.0
2013 Rev	740,776.77	2013	545,685	135.8
2014	823,968.14	2014r	582,266	141.5
2015	893,501.65	2015p	616,860	144.8
2016	950,357.51	2016 Proj	644,000	147.6
2017	962,525.84	2017 Proj	671,534	143.3
2018	1,022,312.01	2018 Proj	707,005	144.6

FRED Graph Observations
 Federal Reserve Economic Data
 Link: <https://fred.stlouisfed.org>
 Help: <https://fred.stlouisfed.org/help-faq>
 Economic Research Division
 Federal Reserve Bank of St. Louis

A191RD3A086NBEA Gross domestic product (implicit price deflator), Index 2012=100, Annual, Not Seasonally Adjusted

Frequency: Annual		Frequency: Annual	
observation_date	A191RD3A086NBEA	observation_date	A191RD3A086NBEA
1929-01-01	9.424	1974-01-01	27.318
1930-01-01	9.079	1975-01-01	29.849
1931-01-01	8.146	1976-01-01	31.491
1932-01-01	7.193	1977-01-01	33.448
1933-01-01	6.993	1978-01-01	35.801
1934-01-01	7.376	1979-01-01	38.771
1935-01-01	7.528	1980-01-01	42.273
1936-01-01	7.620	1981-01-01	46.273
1937-01-01	7.947	1982-01-01	49.132
1938-01-01	7.720	1983-01-01	51.056
1939-01-01	7.644	1984-01-01	52.898
1940-01-01	7.736	1985-01-01	54.571
1941-01-01	8.258	1986-01-01	55.670
1942-01-01	8.915	1987-01-01	57.046
1943-01-01	9.323	1988-01-01	59.059
1944-01-01	9.544	1989-01-01	61.374
1945-01-01	9.791	1990-01-01	63.671
1946-01-01	11.054	1991-01-01	65.825
1947-01-01	12.267	1992-01-01	67.325
1948-01-01	12.956	1993-01-01	68.920
1949-01-01	12.935	1994-01-01	70.392
1950-01-01	13.095	1995-01-01	71.868
1951-01-01	14.024	1996-01-01	73.183
1952-01-01	14.266	1997-01-01	74.445
1953-01-01	14.439	1998-01-01	75.283
1954-01-01	14.573	1999-01-01	76.370
1955-01-01	14.819	2000-01-01	78.078
1956-01-01	15.324	2001-01-01	79.790
1957-01-01	15.832	2002-01-01	81.052
1958-01-01	16.192	2003-01-01	82.557
1959-01-01	16.414	2004-01-01	84.780
1960-01-01	16.638	2005-01-01	87.421
1961-01-01	16.815	2006-01-01	90.066
1962-01-01	17.020	2007-01-01	92.486
1963-01-01	17.215	2008-01-01	94.285
1964-01-01	17.477	2009-01-01	95.004
1965-01-01	17.798	2010-01-01	96.111
1966-01-01	18.296	2011-01-01	98.118
1967-01-01	18.827	2012-01-01	100.000
1968-01-01	19.628	2013-01-01	101.755
1969-01-01	20.591	2014-01-01	103.680
1970-01-01	21.677	2015-01-01	104.789
1971-01-01	22.776	2016-01-01	105.935
1972-01-01	23.761	2017-01-01	107.948
1973-01-01	25.063	2018-01-01	110.382

GDP DEFLATORS AT MARKET PRICES, AND MONEY GDP

Outturn data are as at the Quarterly National Accounts from ONS - last updated 29 March 2019.
Forecast data are consistent with OBR Spring Statement 2019 EFO data as at 13 March 2019

Financial year					Calendar year			
GDP deflator at market prices		Money GDP ^{(3), (4)}			GDP deflator at market prices		Money GDP ⁽³⁾	
Financial year	2017-18 = 100	per cent change on previous year	Cash £ million Non-Seasonally Adjusted	Cash £ million Seasonally Adjusted	Calendar year	2018 = 100	per cent change on previous year	Cash £ million Non-Seasonally Adjusted
1955-56	4.260		19,816	19,830	1955	4.140		19,416
1956-57	4.529	6.32	21,412	21,386	1956	4.425	6.89	21,087
1957-58	4.740	4.67	22,771	22,788	1957	4.606	4.07	22,365
1958-59	4.859	2.52	23,621	23,593	1958	4.778	3.75	23,500
1959-60	4.882	0.47	25,132	25,184	1959	4.815	0.77	24,654
1960-61	4.984	2.07	26,922	26,942	1960	4.865	1.05	26,476
1961-62	5.149	3.32	28,346	28,374	1961	5.037	3.53	28,142
1962-63	5.310	3.14	29,682	29,699	1962	5.215	3.53	29,460
1963-64	5.394	1.57	32,137	32,095	1963	5.286	1.37	31,324
1964-65	5.649	4.73	35,047	35,114	1964	5.475	3.57	34,237
1965-66	5.949	5.31	37,662	37,617	1965	5.799	5.92	37,036
1966-67	6.247	5.01	40,140	40,135	1966	6.101	5.20	39,573
1967-68	6.421	2.79	42,739	42,848	1967	6.285	3.01	41,901
1968-69	6.749	5.10	46,959	46,979	1968	6.544	4.13	46,008
1969-70	7.202	6.73	50,971	51,027	1969	6.965	6.44	49,909
1970-71	7.915	9.89	57,859	57,946	1970	7.631	9.56	56,177
1971-72	8.511	7.54	64,651	64,551	1971	8.263	8.29	62,948
1972-73	9.238	8.54	74,012	74,118	1972	8.892	7.61	70,663
1973-74	10.053	8.83	82,965	82,985	1973	9.682	8.88	81,895
1974-75	12.080	20.16	98,243	98,415	1974	11.238	16.07	92,743
1975-76	15.037	24.47	120,905	120,793	1975	14.170	26.10	115,176
1976-77	17.130	13.92	142,000	142,503	1976	16.363	15.47	136,949
1977-78	19.488	13.77	165,996	165,797	1977	18.630	13.86	159,701
1978-79	21.671	11.20	192,181	192,299	1978	20.817	11.74	185,968
1979-80	25.328	16.88	232,495	232,519	1979	23.830	14.47	220,845
1980-81	30.182	19.16	267,471	267,777	1980	28.654	20.25	259,962
1981-82	33.353	10.51	297,954	297,398	1981	32.182	12.31	289,899
1982-83	35.784	7.29	327,120	327,387	1982	34.738	7.94	319,210
1983-84	37.485	4.75	357,828	357,041	1983	36.661	5.54	351,109
1984-85	39.598	5.64	385,681	384,907	1984	38.549	5.15	377,577
1985-86	41.773	5.49	423,462	424,075	1985	40.594	5.31	414,329
1986-87	43.502	4.14	455,085	455,821	1986	42.408	4.47	446,413
1987-88	45.935	5.59	510,371	510,593	1987	44.697	5.40	495,534
1988-89	48.912	6.48	569,310	570,202	1988	47.328	5.89	554,896
1989-90	52.679	7.70	627,117	626,826	1989	51.016	7.79	613,381
1990-91	56.996	8.19	676,943	678,559	1990	55.113	8.03	667,435
1991-92	60.270	5.74	712,877	711,492	1991	58.744	6.59	703,728
1992-93	61.795	2.53	734,387	736,200	1992	60.541	3.06	727,965
1993-94	63.298	2.43	778,018	775,578	1993	62.166	2.68	766,408
1994-95	64.063	1.21	815,769	815,425	1994	62.960	1.28	806,420
1995-96	66.031	3.07	859,841	859,753	1995	64.506	2.46	846,536
1996-97	68.356	3.52	916,578	915,611	1996	67.140	4.08	903,432
1997-98	68.808	0.66	959,331	959,532	1997	67.622	0.72	948,953
1998-99	69.696	1.29	1,003,372	1,004,504	1998	68.348	1.07	991,238
1999-00	69.963	0.38	1,045,091	1,042,993	1999	68.895	0.80	1,031,158
2000-01	71.540	2.25	1,099,246	1,098,678	2000	70.348	2.11	1,089,341
2001-02	72.256	1.00	1,141,377	1,141,412	2001	70.923	0.82	1,129,443
2002-03	74.049	2.48	1,200,616	1,200,595	2002	72.468	2.18	1,182,956
2003-04	75.586	2.08	1,268,445	1,267,512	2003	74.211	2.41	1,251,847
2004-05	77.622	2.69	1,327,919	1,326,989	2004	76.045	2.47	1,312,854
2005-06	79.657	2.62	1,412,939	1,412,673	2005	77.980	2.54	1,388,753
2006-07	82.024	2.97	1,487,530	1,482,862	2006	80.273	2.94	1,465,902
2007-08	84.057	2.48	1,558,747	1,562,650	2007	82.311	2.54	1,541,442
2008-09	86.339	2.71	1,563,555	1,563,625	2008	84.669	2.86	1,579,796
2009-10	87.561	1.42	1,547,137	1,545,491	2009	86.028	1.60	1,537,213
2010-11	89.191	1.86	1,606,602	1,607,470	2010	87.345	1.53	1,587,466
2011-12	90.363	1.31	1,650,370	1,650,902	2011	89.022	1.92	1,644,546
2012-13	92.182	2.01	1,710,685	1,709,904	2012	90.410	1.56	1,694,417
2013-14	93.874	1.83	1,781,350	1,782,241	2013	92.096	1.87	1,761,347
2014-15	95.080	1.28	1,855,049	1,857,707	2014	93.676	1.71	1,844,295
2015-16	95.840	0.80	1,912,472	1,913,870	2015	94.084	0.44	1,895,839
2016-17	98.023	2.28	1,989,398	1,991,226	2016	96.020	2.06	1,969,524
2017-18	100.000	2.02	2,067,387	2,065,492	2017	98.137	2.21	2,049,629
2018-19 ^{(1), (2)}	-	1.78	2,130,611	2,131,665	2018	100.000	1.90	2,117,724
2019-20 ^{(1), (2)}	-	2.00	2,199,839	2,199,987	2019 ^{(1), (2)}	-	1.98	2,182,436
2020-21 ^{(1), (2)}	-	1.84	2,274,802	2,274,314	2020 ^{(1), (2)}	-	1.84	2,254,754
2021-22 ^{(1), (2)}	-	1.94	2,355,228	2,355,501	2021 ^{(1), (2)}	-	1.92	2,334,801
2022-23 ^{(1), (2)}	-	1.95	2,439,946	2,439,921	2022 ^{(1), (2)}	-	1.95	2,418,509
2023-24 ^{(1), (2)}	-	2.00	2,528,665	2,528,573	2023 ^{(1), (2)}	-	1.99	2,505,889

Sources and footnotes:

GDP Deflator: Financial years 1955-56 to 2017-18 taken from ONS series L8GG in data tables: Table N.

<https://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables/quarter4octodec2018quarterlynationalaccounts/qnatables.xls>

Calendar years 1955 to 2018 taken from ONS series MNF2 in data tables: Table O.

<https://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables/quarter4octodec2018quarterlynationalaccounts/qnatables.xls>

For years 2018-19 to 2023-24 (2019 to 2023): taken from the Office for Budget Responsibility (OBR) forecasts for GDP deflator increases as of March 2019 Economy supplementary tables.

<https://obr.uk/efo/economic-fiscal-outlook-march-2019/>

Money GDP: For years 1955-56 to 2017-18 (1955 to 2018): ONS data for money GDP not seasonally adjusted series BKTL in data tables: Table N.

<https://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables/quarter4octodec2018quarterlynationalaccounts/qnatables.xls>

For years 1955-56 to 2017-18: ONS data for money GDP seasonally adjusted series YBHA in data tables: Table N.

<https://www.ons.gov.uk/file?uri=/economy/grossdomesticproductgdp/datasets/uksecondestimateofgdpdatatables/quarter4octodec2018quarterlynationalaccounts/qnatables.xls>

For years 2018-19 to 2023-24 (2019 to 2023): taken from the Office for Budget Responsibility (OBR) forecasts for GDP deflator increases as of March 2019 Economy supplementary tables.

<https://obr.uk/efo/economic-fiscal-outlook-march-2019/>

Footnotes:

- (1) For years 2018-19 to 2023-24 (2019 to 2023), this presentation only shows percentage changes in line with OBR data as of the Spring Statement 2019.
- (2) For years 2018-19 to 2023-24 (2019 to 2023), money GDP forecasts from the OBR as of the Spring Statement 2019.
- (3) Non-Seasonally adjusted money GDP (BKTL) from 1955-56 to 2017-18 (1955 to 2018) consistent with ONS Quarterly National Accounts release of 29 March 2019.
- (4) Seasonally adjusted money GDP (YBHA) from 1955-56 to 2017-18 consistent with ONS Quarterly National Accounts release of 29 March 2019.
- (5) For further information and the 'User's Guide' to these series, please visit the following page on the GOV.UK website at: <https://www.gov.uk/government/publications/gross-domestic-product-gdp-deflators-user-guide>
- (6) For practical examples of how to use the GDP deflator series, please visit the following page on the GOV.UK website at: <https://www.gov.uk/government/publications/how-to-use-the-gdp-deflator-series-practical-examples>