

Marine and Coastal Tourism Accounting

Provides guidance on accounting for marine and coastal tourism, the largest ocean-economy sector by value added and employment in most coastal and small-island economies.

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Last updated September 2026 **Responsible officer** Dr Jordan Gacutan

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OUTCOME

Marine and coastal tourism is, in most coastal and small-island developing economies, the largest ocean-economy sector by gross value added and employment, yet Section 6 carries a dedicated thematic Circular for every other major ocean-economy sector and none for tourism. This Circular gives compilers an ordered method for measuring it:

- define the segment on a demand-side basis consistent with international tourism statistics;
- isolate tourism within each industry;
- apply a marine and coastal share to extract the ocean-attributable part;
- report how much of the resulting receipts the economy retains; and
- link the segment to the marine ecosystems whose recreation services it depends on, and read its economic flows against the condition of those ecosystems.

Two compilation tiers are provided – one for economies with a Tourism Satellite Account and one proxy tier for the majority that do not – so the guidance is usable across the income and data-maturity range of coastal states. The aim is a segment account that reconciles with the national accounts and, where one exists, the national Tourism Satellite Account, so that ministries of tourism, finance, and environment read consistent figures.

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ABOUT THIS CIRCULAR

RECOMMENDED CITATION

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<https://guidance.oceanaccounts.org/circulars/section-6/6-14-marine-coastal-tourism/>

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DRAFT

¶1 ⓘ Framework Position

¶2 This Circular specialises the ocean-economy identification method of TG-3.3 Economic Activity Relevant to the Ocean for one sector: marine and coastal tourism. TG-3.3 owns the general method for identifying ocean-related industries, the ISIC concordance, and the proxy method for countries without a Tourism Satellite Account. TG-6.14 adds the tourism-specific layer: how tourism is isolated within each industry, how a marine and coastal share is then applied, how the segment is built where no Tourism Satellite Account exists, and how the result links to marine ecosystems and their recreation services.

1. Outcome

¶1 Marine and coastal tourism is, in most coastal and small-island developing economies, the largest ocean-economy sector by gross value added and employment, yet Section 6 carries a dedicated thematic Circular for every other major ocean-economy sector and none for tourism. This Circular gives compilers an ordered method for measuring it:

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¶7 Two compilation tiers are provided – one for economies with a Tourism Satellite Account and one proxy tier for the majority that do not – so the guidance is usable across the income and data-maturity range of coastal states. The aim is a segment account that reconciles with the national accounts and, where one exists, the national Tourism Satellite Account, so that ministries of tourism, finance, and environment read consistent figures.

2. Requirements

- ¶1 **TG-0.1 General Introduction to Ocean Accounts** – the overall framework and the ocean accounting boundary.
- ¶2 **TG-3.3 Economic Activity Relevant to the Ocean** – essential: the ocean economy ratio (ocean-related share), the ISIC–ocean-economy concordance, the interim ISIC-version protocol, the materiality decision rule, and the simplified proxy method for countries without a Tourism Satellite Account, all applied here.

¶3 Related: **TG-2.4 Environmental (including Ecosystem) Goods and Services** and **TG-2.5 Structure and Function of the Ocean Economy** for the recreation ecosystem service and the ocean-economy aggregate; **TG-3.5 Social Accounts** for tourism employment; **TG-4.2 Survey Methods for Ocean Economic Activity** and **TG-4.3 Administrative Data Sources** for the visitor-survey, arrivals-card, licensing and port data this method relies on.

¶4 **Readiness and sequencing.** Whether a country is positioned to compile this account at all – mandate, data architecture, capacity and the order in which to build – is assessed under **TG-0.8 Implementation Readiness Assessment**, and is not restated here.

3. Guidance Material

3.1 Defining marine and coastal tourism

¶1 Tourism is a **demand-side** phenomenon: it is defined by the activities of **visitors**, not by a fixed list of industries.¹ A visitor is a traveller taking a trip outside his or her **usual environment** for less than a year, for a main purpose other than employment by a resident entity in the place visited. A visitor who stays overnight is a **tourist**, and one who does not is a **same-day visitor** (excursionist).¹ Visitor residence distinguishes the **forms** of tourism – domestic (residents within the country) and inbound (non-residents) together make up *internal* tourism – and this distinction matters for compilation, because the data sources for the two differ substantially.¹

¶2 **Marine and coastal tourism** is the subset of this activity that takes place in, or draws its main attraction from, the coast and the sea. Two adaptations of the standard definitions are needed. First, the *purpose* test: an activity counts as marine or coastal tourism where the coast or sea is the principal reason for the visitor's presence or expenditure (beach holidays, diving and snorkelling, recreational boating and sport fishing, marine wildlife watching, cruise calls, visits to marine protected areas and aquaria). Second, the *location* test for activities that are coastal by setting rather than by motive (accommodation, food service, and local transport in coastal destinations), where only a share of output serves marine and coastal visitors. These activities sit in the **partially ocean-related** tier of TG-3.3. The indicative materiality benchmark used to admit them – around 5 per cent of establishment output – is TG-3.3's pragmatic operational choice, not a value drawn from an external standard, and this Circular adopts it by reference rather than restating the rule.²

¶3 **Key Takeaway**

¶4 Marine and coastal tourism is not an industry – it is the marine-and-coastal share of visitor demand falling on a set of tourism industries. Measuring it means applying *two* shares – a tourism share and a marine and coastal share – and the two must be measured on the same population of visitors (Section 3.3).

3.2 ISIC classification and apportionment – concordance backing Figure 6.14.1

¶1 Marine and coastal tourism is reconstructed across four ISIC Rev.4 sections. The concordance below **extends** the ISIC–ocean-economy concordance in TG-3.3 (its Table 2) to the full set of tourism characteristic activities of the Tourism Satellite Account. It does not duplicate the general concordance method, which remains with TG-3.3. Each class carries an apportionment status: **wholly marine** (ocean ratio = 1.0, the entire class is sea- or coast-defined) or **coastal-apportioned** (ocean ratio < 1.0, set by the marine and coastal-purpose visitor share). Figure 6.14.1 presents the same disaggregation visually.

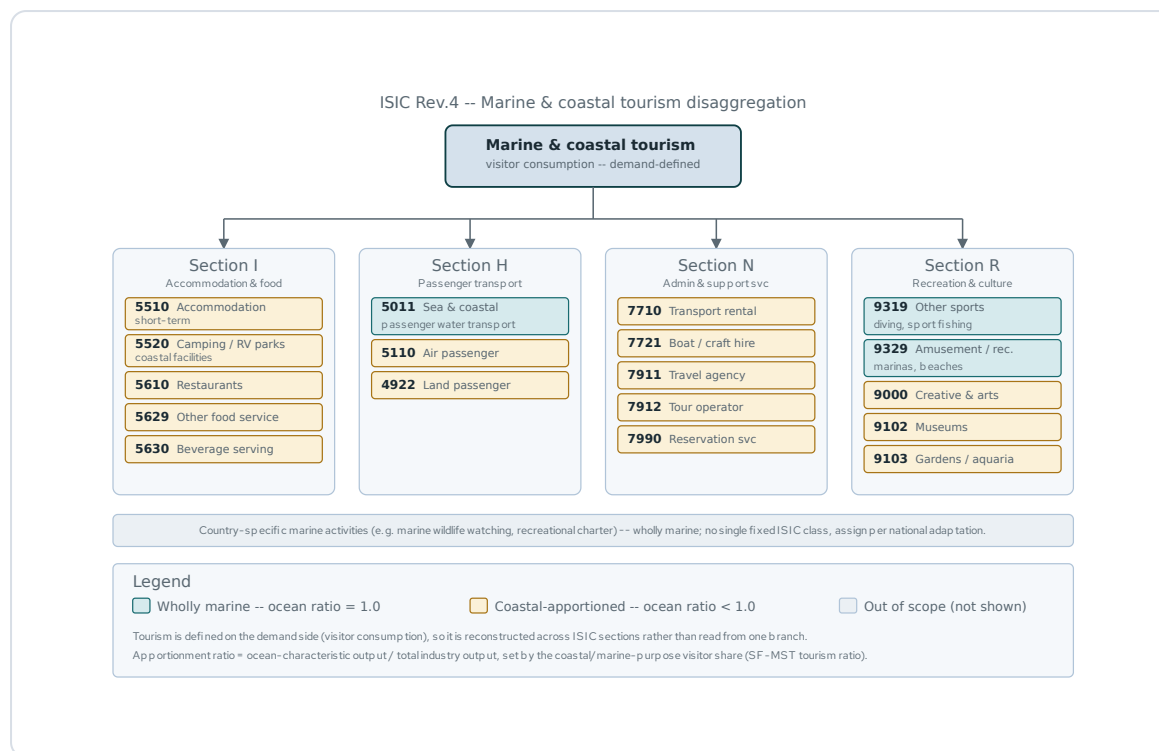


Figure 6.14.1 Demand-side marine tourism reconstructed across ISIC Sections I, H, N, and R by ocean-economy apportionment ratios on visitor expenditure. Row fill encodes apportionment status. Inland/non-coastal classes omitted; use UNSD Rev.5--Rev.4 correspondence where needed.

Source: ISIC Rev.4 (Sections H, I, N, R); UNWTO Tourism Satellite Account: Recommended Methodological Framework 2008 (tourism characteristic activities, paras 4.50--4.53); IRTS 2008; SF-MST 2024 (tourism ratio).

ISIC Rev.4	Description	ISIC Section	TSA characteristic-activity category	Apportionment
5510	Short-term accommodation activities	I	Accommodation for visitors	Coastal-apportioned
5520	Camping grounds, recreational vehicle parks	I	Accommodation for visitors	Coastal-apportioned
5610	Restaurants and mobile food service	I	Food and beverage serving	Coastal-apportioned
5629	Other food service activities	I	Food and beverage serving	Coastal-apportioned
5630	Beverage serving activities	I	Food and beverage serving	Coastal-apportioned
5011	Sea and coastal passenger water transport	H	Water passenger transport	Wholly marine (1.0)
5110	Passenger air transport	H	Air passenger transport	Coastal-apportioned
4922	Other passenger land transport	H	Road passenger transport	Coastal-apportioned
7710	Renting and leasing of motor vehicles	N	Transport equipment rental	Coastal-apportioned
7721	Renting of recreational and sports goods (incl. marine craft)	N	Transport equipment rental	Coastal-apportioned

ISIC Rev.4	Description	ISIC Section	TSA characteristic-activity category	Apportionment
7911	Travel agency activities	N	Travel agencies and reservation	Coastal-apportioned (margin)
7912	Tour operator activities	N	Travel agencies and reservation	Coastal-apportioned (margin)
7990	Other reservation service activities	N	Travel agencies and reservation	Coastal-apportioned (margin)
9319	Other sports activities (incl. sport fishing, diving operators)	R	Sports and recreational activities	Coastal-apportioned
9329	Other amusement and recreation activities (incl. beaches, marinas)	R	Sports and recreational activities	Coastal-apportioned
9000	Creative, arts and entertainment activities	R	Cultural activities	Coastal-apportioned
9102	Museums activities	R	Cultural activities	Coastal-apportioned
9103	Botanical and zoological gardens, nature reserves (aquaria, marine parks)	R	Cultural activities	Coastal-apportioned

¶2 Only **5011 Sea and coastal passenger water transport** is treated as wholly marine: its official ISIC Rev.4 scope is defined entirely by transport over seas and coastal waters (ferries, water taxis, excursion, cruise and sightseeing boats), so an ocean ratio of 1.0 is defensible.³ Note, however, that for 5011 the *tourism* ratio (Section 3.3, step 1) is doing the work of separating visitor travel from resident ferry commuting, which is everyday transport and not tourism. Where no Tourism Satellite Account fixes that ratio, a defensible tourism ratio for coastal ferries should be estimated separately from passenger-purpose data rather than assumed. By contrast **9319 Other sports activities** and **9329 Other amusement and recreation activities** are *broad* classes: 9319 also covers athletes, leagues, racing stables and land-based sport, and 9329 covers fairs, ski hills, discotheques and amusement arcades.⁴ Assigning either class an ocean ratio of 1.0 would over-attribute the bulk of its output to the ocean economy and break the demand-side logic, so both are coastal-apportioned, consistent with TG-3.3.

¶3 **Margin basis for travel agencies and tour operators.** Travel agency, tour operator and reservation services (7911/7912/7990) must enter on a **margin (net) basis** – the service fee or mark-up, not the gross package price – following Tourism Satellite Account convention. If gross package revenue is used, the accommodation and transport bundled inside a package are counted twice: once in 5510/5011 and again in the tour operator's turnover.⁵

¶4 **Marine activities without a dedicated ISIC class.** Marine wildlife watching, recreational dive operators and recreational charter are wholly marine but have no single fixed ISIC class and are often informal or under-covered in the business register. Assign them by national adaptation as follows:

- ¶5 identify the operators from tourism-board licensing, marine-park concession records, or dive- and charter-association membership (per TG-4.3);
- ¶6 estimate their receipts and employment from those administrative sources where the register under-covers them; and
- ¶7 record them as a wholly-marine (1.0) add-on line to the apportioned 9319/9329 total, taking care not to double-count operators already captured in the register.

¶8 Out-of-scope classes with no material ocean-attributable share are not shown.

¶9 ⚠ Common Misconception

¶10 A class that contains marine examples is not a wholly marine class. Diving and beach-recreation receipts sit inside ISIC 9319 and 9329, but so does most non-marine sport and amusement – so these classes must be apportioned, not set to 1.0.

¶11 **ISIC version note.** ISIC Rev.5 was adopted by the UN Statistical Commission at its 54th session (28 February–3 March 2023). Its explanatory notes and implementation plan were endorsed at the 55th session (2024), with national implementation expected from 2027.⁶ Where the national business register has transitioned, apply the UNSD ISIC Rev.5–Rev.4 correspondence before using this concordance, following the interim ISIC-version protocol set out in TG-3.3 (use the operative register version; adapt via the correspondence table; document the version used in compilation metadata).

3.3 Compiling the marine and coastal tourism segment

¶1 The segment is built from two apportionment shares – a tourism share and a marine and coastal share – followed by a reconciliation step. Two tiers are provided according to data availability.

Tier 1 – where a national Tourism Satellite Account exists

1. ¶1 **Isolate tourism within each industry using the tourism ratio.** The **tourism share** of an industry is the part of its output acquired by visitors (internal tourism consumption), and the **tourism ratio** expresses that share as a fraction of the industry's total output.⁵ The ratio is applied to output and intermediate consumption to derive the tourism-attributable value added of each industry. The headline aggregates – **tourism direct gross value added (TDGVA)** and **tourism direct gross domestic product (TDGDP)** – are then obtained through the Tourism Satellite Account Table 6 reconciliation of internal tourism consumption against domestic supply, with TDGDP adding the net taxes on tourism products. TDGVA/TDGDP are therefore *not* simply value added multiplied by a ratio, and TDGDP in particular cannot be apportioned by a single per-industry multiplier.⁷ Where a national Tourism Satellite Account exists, start from its published tourism ratios rather than re-estimating them.
2. ¶2 **Apply the marine and coastal share.** Multiply each industry's derived tourism aggregate by the marine and coastal-purpose share for that class – 1.0 for wholly marine classes, and the coastal/marine visitor-purpose share otherwise. This second share is the TG-6.14-specific contribution and is the operational form of the per-class apportionment in Section 3.2. Two cautions apply. First, **measure both shares on the same population:** the tourism ratio covers *internal* tourism (domestic + inbound), so the marine and coastal share must also be measured on internal tourism, or estimated separately for domestic and inbound demand and recombined – applying an inbound-only share (for example one read straight off international arrivals cards) to an internal-tourism aggregate will misstate the segment wherever domestic and inbound marine propensities differ. Second, applying the share directly to value added assumes the marine and non-marine portions of a class carry the same value-added ratio. Where establishment data allow, apply the share at the output level and derive value added from class-specific margins.
3. ¶3 **Reconcile.** The national-accounts industry totals are the binding control, and the Tourism Satellite Account is the cross-check where it exists, with the two themselves required to be mutually consistent. Anchor the segment to the reliable supply-side total and adjust the apportioned demand-side estimate to it. Following TG-3.3, flag any discrepancy exceeding about 10 per cent of the initial estimate for investigation rather than silent absorption, and document the residual.
- ¶4 **Sourcing the marine and coastal share.** This is the single hardest number in the method, and the available sources are not interchangeable. A visitor expenditure survey is best – it gives the marine and coastal *expenditure* share directly, and the share should be expenditure-weighted rather than arrival-count-weighted, since high-spend marine activities (diving, charters) and low-spend beach visits differ. Arrivals-card purpose data are a national-level proxy only. They do not resolve

to the industry or destination level, and they systematically miss same-day, cruise and domestic visitors – precisely the visitors most concentrated in marine recreation – so they must be supplemented for those segments. Emerging sources – e-VISA records and mobile-positioning data – are increasingly used to allocate where visitors actually go and can support destination-level shares (see [TG-4.2](#) and [TG-4.3](#)).

Tier 2 – where no Tourism Satellite Account exists (proxy method)

¶1 Most coastal and small-island developing states have no operational Tourism Satellite Account, and their visitor surveys often do not separate marine from non-marine purposes. In these contexts the segment is built using the simplified proxy method of TG-3.3 (its Section 3.7), which this Circular adopts as the default Tier 2 path:

- ¶2 obtain accommodation receipts by district and identify coastal districts;
- ¶3 calculate the marine-purpose arrivals share from arrivals cards or port-of-entry surveys;
- ¶4 multiply coastal accommodation, food-service and local-transport receipts by that share; and
- ¶5 add explicitly marine recreational expenditure (diving, charters, sport fishing) from operator licensing records.⁸

¶6 In the proxy case the two shares of Tier 1 collapse into the single applied marine-purpose share – the proxy already conflates the tourism and marine-purpose steps – so compilers should not additionally apply a tourism ratio and double-discount. A Tier 2 estimate is a legitimate first account, to be upgraded to Tier 1 as a Tourism Satellite Account and visitor-expenditure surveys become available.

3.4 Value added, employment, and trade

¶1 **Production account.** Compile output, intermediate consumption, gross and net value added for the segment, carrying the marine and coastal share into the derived tourism aggregates as set out in Section 3.3 (and observing that TDGDP, which includes product taxes, is reconciled rather than scaled). Marine tourism-specific fixed assets – cruise ships and yachts, marinas, dive boats and charter vessels – are the capital counterpart and should be identified in the gross fixed capital formation of the segment.⁹

¶2 **Cruise and international visitors.** Cruise is the hardest case and warrants explicit treatment. Cruise passengers entering the economic territory are visitors, and unless they overnight ashore they are international **same-day visitors (excursionists)**. Whether their ashore expenditure is recorded as internal tourism consumption of the country of reference depends on applying the residence and economic-territory concepts to the ship they arrive and leave on: it is conditional, not automatic.¹⁰ In practice, ashore expenditure is estimated as **passengers landed x average per-passenger shore expenditure** from port-of-call intercept surveys, passenger and port taxes are recorded separately as government revenue, and fares and on-board spending accrue to the cruise operator, which is typically non-resident (a balance-of-payments leakage). Note that under the balance-of-payments standard **cruise fares are recorded in the travel item**, not in passenger transport, distinguishing them from ordinary international passenger fares.¹⁰ Inbound visitor expenditure is recorded as exports of travel services and outbound as imports, and the segment's inbound component should be aligned with the balance-of-payments travel credit so the two are not estimated independently and inconsistently.

¶3 **Employment.** Employment is first measured *in the tourism industries* on a domestic, establishment basis – the standard Tourism Satellite Account Table 7 measure – because labour is associated with the establishment in which output is produced, not with the residence of the visitor served.¹¹ The tourism-attributable portion is obtained by applying each industry's tourism ratio to its employment, and the marine and coastal segment by applying the marine and coastal share. Applying the ratio to employment carries the stated assumption that the visitor-serving fraction of

output has the same labour intensity (production function) as total output, which should be made explicit.¹¹ Coastal tourism labour markets are strongly **seasonal** and carry a high incidence of **informal employment**. Because the establishment survey is exactly what misses informal dive guides, beach vendors and seasonal crew, in high-informality settings the labour-force survey (ideally a peak-season round) and operator licensing should be the primary employment source, with the establishment survey as a lower bound. Report both peak-season and annual-average employment so the seasonal swing is visible. See [TG-3.5 Social Accounts](#) for the wider tourism-employment treatment.

¶4 **Trade and retention.** Beyond gross value added and export earnings, the question finance ministries ask first is how much of tourism receipts the economy actually keeps. Gross value added measures production within the economic territory, not the income that remains there, and for a marine tourism segment built on foreign-owned resorts, foreign-flagged vessels and imported supply the two can diverge widely. The SF-MST treats this as **tourism leakage** and identifies two distinct channels, which should be reported separately rather than combined into a single headline number.¹² Figure 6.14.2 sets out the reduction from gross segment receipts to retained value.

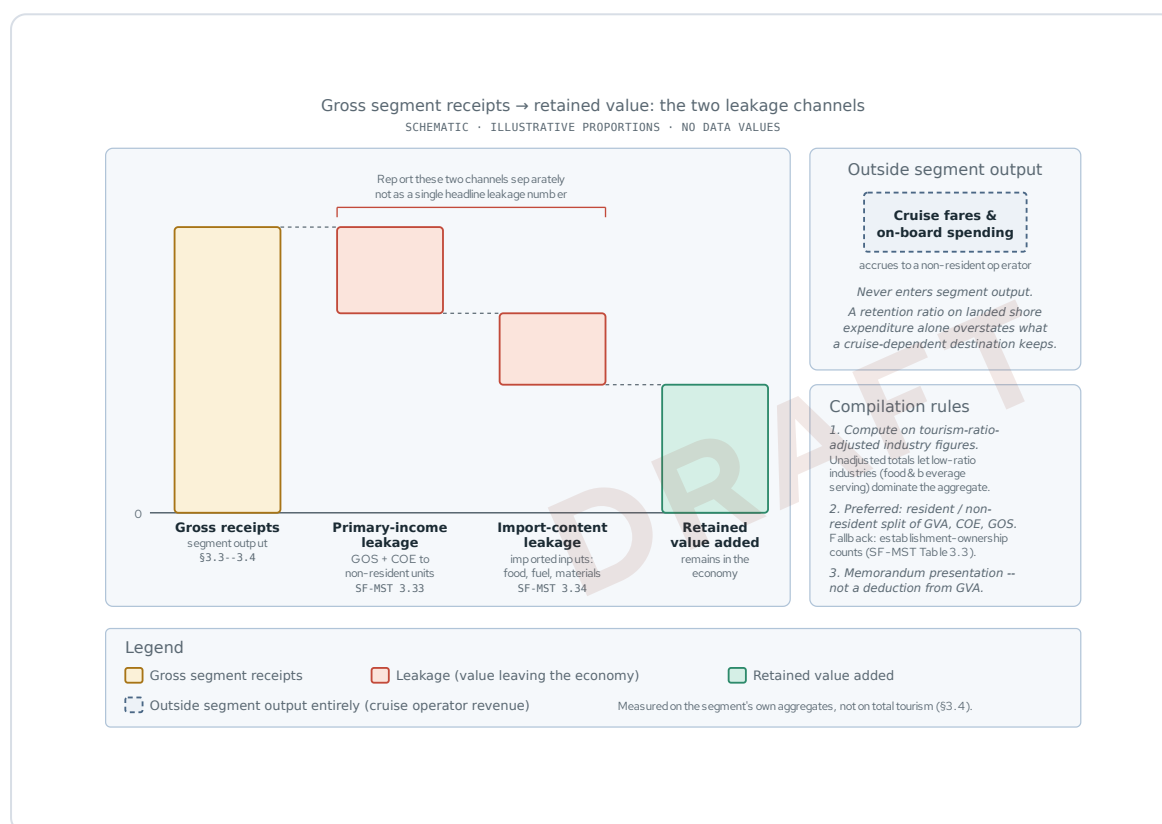


Figure 6.14.2 Schematic waterfall from gross marine tourism receipts to retained value via primary-income and import-content leakage channels. Bar heights illustrative (no data). Retention is a memorandum beside segment GVA, not a deduction from it.

Source: SF-MST (2024) paras 3.33--3.34 and Tables 3.3--3.5; this Circular §3.4 ("Trade and retention").

- ¶5 **Primary-income leakage.** Gross operating surplus generated by the segment that accrues to non-resident economic units and is not reinvested locally. The SF-MST's preferred treatment is to split the segment's gross value added, compensation of employees and gross operating surplus between resident and non-resident units. Splitting compensation of employees as well as operating surplus matters in this sector, because non-resident managerial and specialist labour is common in resort and dive operations. Where that split is unavailable, the count of resident- and non-resident-owned establishments supports a coarser ownership-based indicator.

- ¶6 **Import-content leakage.** Value added that does not remain in the economy because the inputs to tourism production (food, fuel, construction materials, vessel maintenance) are imported. This is derivable from the supply-and-use reconciliation and is characteristically high in small-island settings.

¶7 One caution governs both. The retention indicators must be computed on **tourism-ratio-adjusted** industry figures. Applying them to unadjusted industry totals allows industries with a low tourism ratio, food and beverage serving being the standard case, to dominate the aggregate and misstate retention for the segment as a whole.¹² Marine tourism adds a further channel not present in inland tourism: cruise fares and on-board expenditure accrue to a typically non-resident operator and never enter the segment's output at all (see the cruise treatment above), so a retention ratio computed on landed shore expenditure alone will overstate what a cruise-dependent destination retains. Report the retention indicators as a memorandum presentation alongside the segment's gross value added rather than as a deduction from it.

¶8 **Visitor-paid conservation levies and access fees.** Marine protected area entry fees, dive-site levies, reef taxes and operator conservation surcharges are a material receipt in marine destinations, and their treatment is a consumption-boundary question that belongs to this Circular. A fee paid by a visitor during a trip is part of that visitor's tourism expenditure and therefore enters **internal tourism consumption** and the segment aggregates of Sections 3.3 and 3.4, on the same basis as any other product acquired on the trip. An operator conservation surcharge that is a component of the price of a dive or excursion is not separable: it is part of the operator's output and flows through the supply-and-use reconciliation before it ever reaches a conservation fund. The destination of the money does not change the recording of the transaction.

¶9 **Common Misconception**

¶10 A conservation levy paid by a visitor is one transaction with two sides, and the two must never be summed. It is visitor expenditure inside the tourism aggregates of Section 3.4, and it is government or institutional revenue in the governance accounts. Adding the segment's tourism direct gross value added to the conservation revenue it generated double-counts the levy.

¶11 For the recording of the revenue itself, the environmentally related taxes and fees account, and the conservation expenditure it finances, see **TG-3.7 Governance Accounts**, which carries marine protected area access fees as an account line and sets out the test that determines whether a given levy is recorded as an environmental tax, as rent, or as a sale of services.¹³ For capital expenditure on marine conservation and the rule preventing the same outlay entering both gross fixed capital formation and environmental protection expenditure, see **TG-2.6 Ocean-related Investment**. For the design of conservation finance instruments, see **TG-1.8 OA and Project-Level Finance**.

3.5 Environmental interactions

¶1 The connection between tourism and the environment runs both ways. For marine and coastal tourism the marine ecosystem asset *supplies the service that visitors consume*: reefs, seagrass meadows, beaches and clear coastal water are the biophysical basis of the attraction, but it is the service flow they yield – not the asset stock itself – that links them to tourism.¹⁴ This Circular adapts the environmental dimension of the SF-MST to the marine case rather than restating it. Figure 6.14.3 sets out the asset -> service -> account linkage.

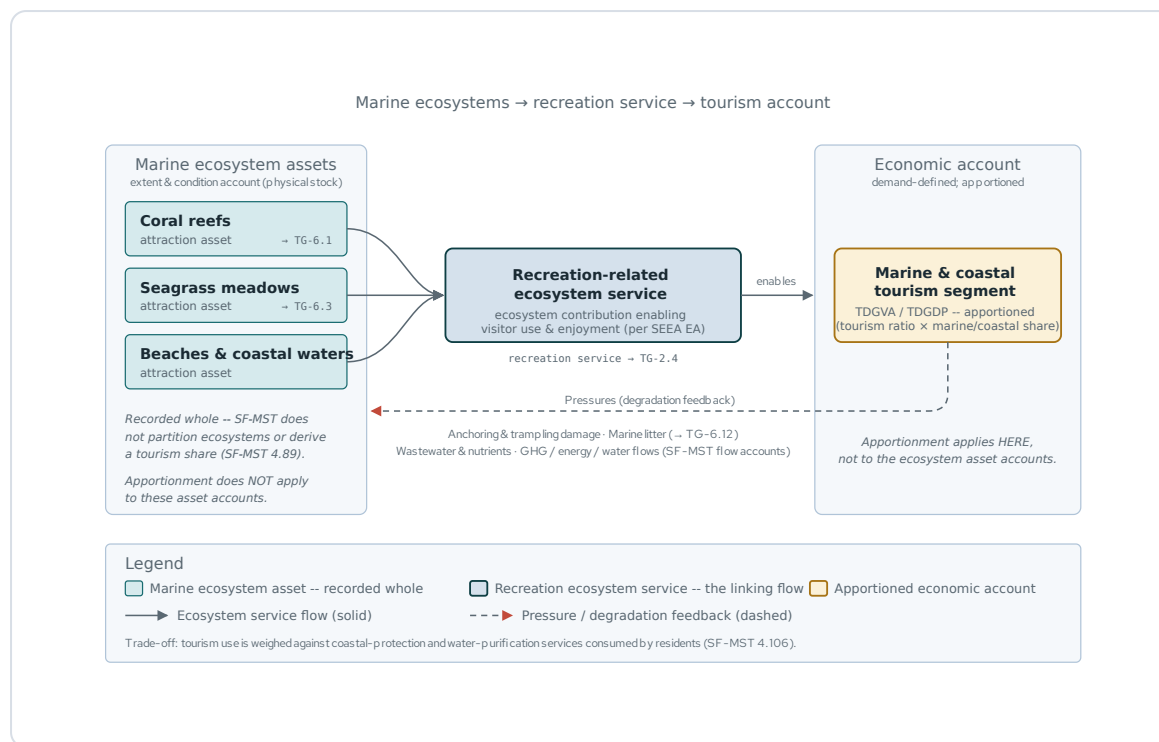


Figure 6.14.3 Recreation-related ecosystem services link marine assets to the tourism segment; assets stay whole while only the economic account is apportioned. Dashed arrows = tourism pressures returning to assets.

Source: adapted from SF-MST (2024) §4.3; SEEA EA Chapters 6 and 9.

¶2 **Recreation ecosystem services.** The flow that links marine ecosystems to tourism is the **recreation-related ecosystem service** – the contribution of an ecosystem’s biophysical characteristics that enables visitors to use and enjoy it – recorded following the SEEA Ecosystem Accounting.¹⁵ It is a **final** ecosystem service whose beneficiary is the visitor, recorded in the physical ecosystem-service account and conceptually distinct from, and must not be added to, the tourism direct gross value added of Sections 3.3–3.4 (the former values the ecosystem’s contribution, the latter the produced output of tourism industries). For marine and coastal tourism these services are supplied by coral reefs, seagrass and coastal waters, and their measurement should draw on, and not duplicate, TG-6.1 Coral Reef Ecosystem Accounting, TG-6.3 Seagrass Ecosystem Accounting, and the recreation-service treatment in TG-2.4. A measure of total recreation services in a destination, set against ecosystem carrying capacity, indicates how dependent the local tourism economy is on the condition of its marine ecosystems, and the carrying-capacity measure should itself consider both the number of visitors and the change in condition of the ecosystem.¹⁵ The framework directs compilers to make that comparison; it does not supply the threshold values against which a compiled figure could be judged, and expressly holds that it does not establish thresholds, since these vary by location and over time.¹⁶

¶3 **Extent and condition of marine tourism assets.** Compile a tourism-related ecosystem asset register and regional extent account that includes the relevant marine ecosystem types – for example marine shelf systems, coral reefs and seagrass meadows – using a national classification cross-walked to the IUCN Global Ecosystem Typology as the reference, with condition measures for each marine asset.¹⁷ Condition characteristics should be organised under the SEEA EA **ecosystem condition typology (ECT)** and its six condition-characteristic classes, so that marine variables (live-coral cover, water clarity and turbidity, seagrass density) are mapped to ECT classes rather than chosen ad hoc.¹⁸ A disturbance layer is not a condition account, and the distinction is easily lost in practice: the European Union nature-based tourism account carried the effect of major fires by excluding burnt areas from its service-providing areas, which is an event-extent adjustment standing in for the condition account the architecture calls for.¹⁹ The marine analogue is to treat bleaching-

event extent, or a raw degree-heating-week series, as though it were a condition account. Both are exposure or disturbance measures and must be **rescaled** against reference levels before they are condition indicators; the rescaling for marine variables, including the Maximum Monthly Mean and degree-heating-week method for reefs, belongs to **TG-4.8 Physical Condition Measurement** and is not restated here. The SF-MST does **not** recommend partitioning ecosystems or deriving a tourism share of an ecosystem asset. The asset is recorded whole, and its extent and condition are tracked as a physical stock.¹⁷ This is a key contrast with the economic accounts of Sections 3.2–3.4, where apportionment is central, and compilers should not carry the marine and coastal share into the ecosystem asset accounts.

¶4 ⚠ **Valuation Caution**

¶5 Recreation valuation studies for reefs and beaches are dominated by contingent valuation and choice experiments, which estimate total willingness to pay including consumer surplus. These are welfare measures, and they are not consistent with the exchange-value basis of the accounts. They must not be entered directly as account values, and gross visitor expenditure must not be substituted for the ecosystem contribution either, since it overstates it. The exchange-value rule, the valuation preference hierarchy, and the simulated exchange value adjustment that stated-preference data require are owned by **TG-1.9 Safe Usage of Monetary Valuation** and are not restated here.²⁰

¶6 **Pressures specific to marine tourism.** Record the marine-specific pressures the activity places on these assets:

- ¶7 physical damage to reefs and seagrass from anchoring, trampling and dive contact;
- ¶8 marine litter from vessels and beach use (cross-reference **TG-6.12 Marine Litter and Plastics Accounting**);
- ¶9 wastewater and nutrient discharge to coastal waters;
- ¶10 freshwater abstraction by coastal resorts in water-scarce settings; and
- ¶11 greenhouse-gas, energy, water and solid-waste flows.

¶12 The flow side and the asset side are apportioned *differently*, and the contrast must be kept explicit: the physical pressure flows are SEEA Central Framework accounts and **do** carry a tourism share – only the tourism share of the environmental flow is included – whereas the marine *asset* is recorded whole, with no tourism share, its degradation tracked as a change in ecosystem condition.²¹ How that tourism share is derived matters. The SF-MST's preferred route estimates the share from physical factors specific to the activity – passenger kilometres and fuel volumes, for example – and its stated fallback, used only where neither direct data nor modelled estimates exist, is to compile the flow at industry level and scale it by the industry's tourism output ratio.²² Compilers should note a corollary the framework does not state: where the fallback is used, the environmental flow per unit of tourism output equals the flow per unit of industry output *by construction*, so the resulting tourism environmental intensity is the whole-industry intensity and cannot reveal that visitors are more or less flow-intensive than other customers. This is the same class of assumption as the labour-intensity caveat in Section 3.4, and for marine pressures – where resort water abstraction and vessel fuel use are typically far more visitor-concentrated than the industry averages containing them – the physical-factor route should be preferred wherever the data allow. Where these pressures degrade the ecosystems that supply the recreation service, the joint economic-environmental account is meant to make the resulting trade-off visible, for example between tourism use and the coastal-protection or water-purification services consumed by residents.¹⁵

¶13 **Attributing degradation to tourism.** Coral and seagrass decline in a tourism destination is rarely caused by tourism alone. Bleaching driven by marine heatwaves, agricultural and urban runoff, coastal development and fishing pressure act on the same assets at the same time, and a condition series alone cannot separate them. Two rules follow. First, the attribution question is asked of the *flow*, not the asset: the SF-MST recommends estimating the contribution tourism activity makes to changes in an environmental asset, whilst holding that this contribution must not be read as a share of the asset itself.²³ Second, the attribution should rest on localised measurement

rather than assumption. The SF-MST recommends that pressure and condition measurement be concentrated in the specific locations where the issue is apparent and potentially attributable to tourism, rather than compiled at national scale, and that stock data (asset quality) be combined with flow data (pollutants and emissions) so that the two can be read together.²³ For marine tourism this means site-level monitoring at the dive sites, anchorages and beaches carrying the visitor load, with an unvisited or lightly visited reference site of comparable exposure where one is available. Where the pressure cannot be separated from other drivers, record the pressure flow and the condition change and state the limitation, rather than asserting a tourism-attributable share the data do not support.

¶14 **Reading economic flows against ecosystem condition.** The joint account allows a diagnostic that neither the economic nor the ecosystem account yields alone: the segment's tourism direct gross value added series read against the condition series for the reef and seagrass assets that supply its recreation service. Figure 6.14.4 sets out the pairing and the constraints on it.

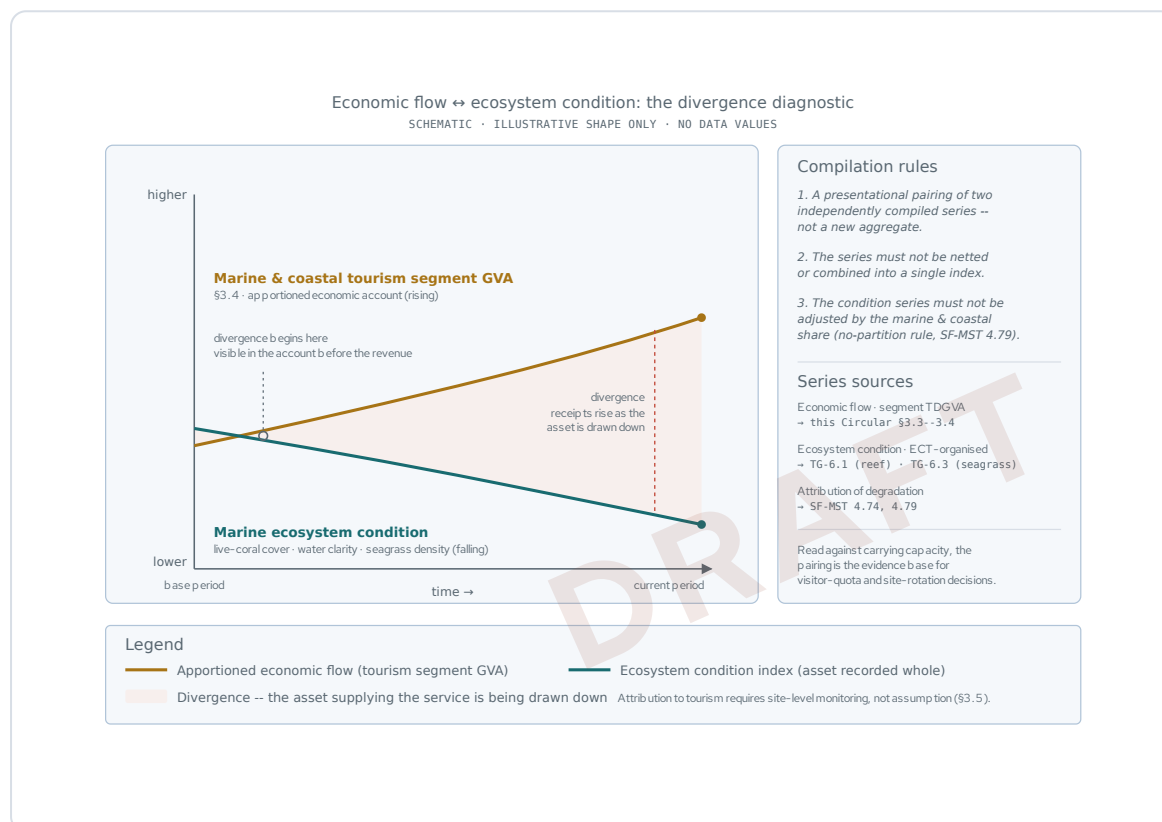


Figure 6.14.4 Presentational pairing of tourism economic flows against ecosystem condition series; the two are compiled independently and never netted. Curves illustrative (no data). Condition series carries no marine/coastal share.

Source: this Circular §3.4--3.5; series construction follows SF-MST (2024) 4.74 (combining stock and flow data) and 4.79 (no tourism share of environmental assets); condition characteristics organised under the SEEA EA ecosystem condition typology.

¶15 A destination in which segment gross value added rises whilst live-coral cover, water clarity or seagrass density falls is drawing down the asset that underpins the receipts, and the account makes the divergence visible before it appears in the revenue. That divergence is not hypothetical: the pilot provincial accounts for KwaZulu-Natal record that nature-based tourism value “increased in spite of general evidence of a decline in the extent and condition of natural areas”.²⁴

¶16 The diagnostic is a presentational pairing of two independently compiled series, not a new aggregate. The two must not be netted or combined into a single index, and the condition series must not be adjusted by the marine and coastal share, consistent with the no-partition rule above. Four limits govern how the pairing may be read, and they are the reason it remains a pairing.

- ¶17 **It is not an estimated response.** The account states two quantities against one asset; it does not estimate how the tourism aggregate would move were condition to change. The same KwaZulu-Natal authors, having assembled extent, condition and a tourism value added figure in one account, record the missing step as outstanding – that “it would be useful to consider the counterfactual or what tourism value might have been in the absence of the negative ecological trends”.²⁴ Compilers should not present the pairing as though that counterfactual had been supplied.
- ¶18 **The relation is not necessarily linear or monotonic.** Marine assets follow recovery trajectories, so a condition decline and the visitation it affects need not move together within a reference period, and a destination may sustain or even raise receipts through a decline. Read the pairing as a divergence to be investigated, not as a dose-response curve.
- ¶19 **Displacement can leave a national aggregate unmoved.** Visitors deterred from a degraded site frequently travel elsewhere in the same country. A site or destination account will register the loss where a national aggregate does not, so the scale at which the pairing is struck determines what it can detect.
- ¶20 **Periodicity follows the coarser side.** Condition accounts are ordinarily compiled less frequently than the Tourism Satellite Account, so the paired statement can be made only for the reference years the condition account actually covers. Interpolating the condition series to the tourism cadence manufactures precisely the movement the pairing exists to record, and must not be done.

¶21 Scale is also bounded by the data. Physical attribution is sensitive to the spatial unit it is compiled on – the European Union account found allocated service use shifting by 0.89 per cent between NUTS 2 and NUTS 3 aggregations of the same tourism statistics¹⁹ – whilst the economic side rarely resolves below the national level. Destination scale is therefore the outer bound of a defensible paired statement, and any finer attribution should be presented as indicative with its aggregation sensitivity documented.

¶22 Read with those limits, the pairing is the evidence base a tourism ministry needs for visitor-quota and site-rotation decisions. It is not an answer to whether current visitor volumes are sustainable, because neither standard supplies the referent that question requires: the account can show whether a destination’s position is improving or deteriorating against itself over time, and the threshold that separates acceptable from unacceptable has to be set by the destination. The Austrian pilot study on measuring sustainable tourism reached the same conclusion, holding that benchmarking with fixed quantitative target values for each indicator is not possible and locating sustainability as a regional phenomenon whose targets regional policy-makers must establish.²⁵

¶23 **Reef-dependent tourism indicator.** The marine-tourism segment gross value added of Section 3.4 can be set against the reef- and seagrass-dependent recreation share to give an indicative *reef-dependent tourism value* – the most policy-salient output for an environment ministry. This is an **attribution** of economic value to ecosystem condition, not a partition of the ecosystem asset, and is therefore consistent with the no-partition rule above.

¶24 The attribution runs in two stages, and only the second belongs to this Circular. The first stage separates the ecosystem’s contribution from the produced and human inputs assembled around it – accommodation, transport, guiding and gear hire – attributing the residual to the ecosystem. That residual construct is owned by **TG-6.1 Coral Reef Ecosystem Accounting** (its Section 3.4, simulated exchange value) and is not restated here. The second stage is required wherever a destination’s recreation service is supplied by more than one marine asset, which is the normal case: reefs, seagrass meadows and beaches typically serve the same visitors, and TG-6.1 resolves a single asset only. Allocate the nature-attributable component across the destination’s marine assets **in proportion to the physical recreation-service use attributed to each asset in the ecosystem services use table**, so that the weights are the account’s own compiled physical quantities rather than an assumed split, and a non-ecosystem residual remains outside the allocation. Two con-

straints follow. The allocation distributes a compiled total between assets; it does not estimate what that total would be were one asset's condition to change, which is the limit recorded in the pairing above. And it inherits the aggregation sensitivity noted there, which is the second reason to fix the exercise at destination scale. Any monetary ecosystem-service estimate (SEEA EA Chapters 9–11, which have recommendation rather than standard status) is complementary to, and must not be summed with, the segment's tourism direct gross value added.²⁶

¶25 **Compiled precedents and their limits.** Compilers should know that the account specified above has been attempted, that no attempt has yet completed it, and where each stopped. The nearest **marine** precedent is an Italian compilation of ecosystem accounts for marine-based tourism supplied by *Posidonia oceanica*, which estimated marine ecosystem extent and condition – shoot density as a health proxy, with nitrogen and phosphorus concentrations as pressure proxies – carried the physical contribution through to monetary terms, and reported values of EUR 6.1 million for 2019 and EUR 3.7 million for 2021.²⁷ Three limits qualify it as a model. No formal condition account table was constructed, condition entering at the extent-and-condition assessment stage instead; no Tourism Satellite Account aggregate appears anywhere, so there is no tourism direct gross value added to pair with; and the monetary step applies travel cost as a price proxy to ecosystem-dependent arrivals whilst describing the result as an exchange value. That last point is the boundary case governed by **TG-2.4 Environmental (including Ecosystem) Goods and Services** (its Section 3.10.4), which distinguishes the consumer expenditure method, yielding exchange values, from the traditional travel cost method, which estimates total willingness to pay including consumer surplus. Compilers adopting this precedent should satisfy themselves which of the two they are implementing and label it accordingly.

¶26 The nearest **full-account** precedent is the pilot provincial accounts for KwaZulu-Natal, which assembled ecosystem extent and condition accounts, a tourism valuation using resource-rent ratios drawn from the national Tourism Satellite Account, and a direct value added figure consistent with the national accounts, in one place.²⁴ Its limit is instructive: the tourism value was spatially allocated by geotagged photo-user density, so ecosystem condition, although compiled in the same account, never entered the tourism valuation – which is why value could rise whilst extent and condition fell. The **physical** precedents are more advanced than the monetary ones. An exploratory Italian account allocated 246 million overnight stays, 56.69 per cent of the 2019 national total, to nature-based tourism, whilst disclaiming official status for the result,²⁸ and the same architecture extended across the European Union attributed 1,560.38 million overnight stays, 58.1 per cent of all overnight stays in 2018, over eleven ecosystem types.¹⁹ That classification is directly relevant here: it includes a coastal beaches, dunes and wetlands class crosswalked to the IUCN Global Ecosystem Typology, which is an implemented instance of the crosswalk recommended above. It is also where the precedent runs out for this Circular's purposes, since its coastal coverage is derived from land-cover classes and its authors identify marine ecosystems as an outstanding gap. No compilation reviewed here covers reefs or seagrass on the asset side and a Tourism Satellite Account aggregate on the economic side, so a marine destination attempting the pairing is extending the practice rather than following it, and should document its choices accordingly.

3.6 Worked example

¶1 This example **extends** the Country B coastal-tourism illustration in TG-3.3 Section 3.7 rather than re-deriving it from scratch. Country B has no Tourism Satellite Account, so it is a **Tier 2 (proxy)** case. The inputs are as follows:

- ¶2 coastal-district accommodation receipts of USD 120M;
- ¶3 arrivals cards indicating that 55 per cent of visitors cite beach or marine recreation as the primary purpose;
- ¶4 coastal food-service and local-transport receipts of USD 45M; and
- ¶5 licensed marine-recreation operators (diving, charters) reporting USD 8M.

¶6 The proxy applies the single marine-purpose share to the setting-based categories and adds the wholly marine line:

Category	Coastal receipts (USD M)	Marine/coastal share	Marine tourism (USD M)
Accommodation (5510/5520)	120	0.55 (arrivals-card proxy)	66
Food and beverage serving (5610/5629/5630)	45 (with transport)	0.55	25
Marine recreation operators (9319/9329 add-on)	8	1.0 (wholly marine)	8
Total marine tourism contribution			99

¶7 In a **Tier 1** economy the same destination would instead start from the Tourism Satellite Account tourism ratio for each class to isolate the tourism part of output, then apply the marine and coastal share – measured on the same internal-tourism population (Section 3.3) – with sea and coastal passenger transport (ISIC 5011) and the licensed marine operators entering at 1.0, and reconcile the resulting tourism direct gross value added to the national accounts and the Tourism Satellite Account. Either way, the proxy assumptions – particularly the arrivals-card share and the receipts source – should be documented in compilation metadata so users can assess sensitivity, and the segment’s recreation-service dependence read against the condition of the reef and seagrass assets in the destination’s ecosystem register. A fuller synthetic application adding the greenhouse-gas, water and solid-waste flow accounts of Section 3.5 will be developed as those flow accounts mature.

4. Acknowledgements

¶1 **Authors:** [To be confirmed]

¶2 **Reviewers:** [To be confirmed]

5. References

- ¶1 United Nations & World Tourism Organization (2008). *International Recommendations for Tourism Statistics 2008 (IRTS 2008)*. Statistical Papers, Series M No. 83/Rev.1. New York and Madrid. Visitor, tourist, same-day visitor, and usual environment: paras 2.9, 2.13, 2.21–2.25; forms of tourism (domestic, inbound, internal): paras 2.39–2.40; tourism as a demand-side phenomenon: para 1.1.
- ¶2 [TG-3.3 Economic Activity Relevant to the Ocean](#), Section 3.2 (“Operational decision rule for partially ocean-related activities”). The ~5 per cent of establishment output benchmark is described there as a pragmatic operational choice, not a value drawn from an external standard.
- ¶3 United Nations (2008). *International Standard Industrial Classification of All Economic Activities, Rev.4 (ISIC Rev.4)*. Series M No. 4/Rev.4. Class 5011 (Sea and coastal passenger water transport) is defined by transport over seas and coastal waters; inland water passenger transport is class 5021.
- ¶4 ISIC Rev.4, classes 9319 (Other sports activities) and 9329 (Other amusement and recreation activities n.e.c.); official scope notes confirm both are broad classes containing substantial non-marine activity.
- ¶5 United Nations, World Tourism Organization, Eurostat & OECD (2008). *Tourism Satellite Account: Recommended Methodological Framework 2008 (TSA:RMF 2008)*. Studies in Methods, Series F No. 80/Rev.1. Tourism share: para 4.51; tourism ratio: para 4.56 (carried in Table 6). Travel agency, tour operator and reservation services are measured on a margin basis as a distinct tourism characteristic product.
- ¶6 UN Statistical Commission, 54th session (2023) – adoption of ISIC Rev.5; 55th session (2024) – endorsement of explanatory notes and implementation plan, with national implementation expected from 2027. UNSD publishes an ISIC Rev.5–Rev.4 correspondence table.
- ¶7 TSA:RMF 2008, paras 4.47 and 4.58–4.59 (derivation of tourism direct gross value added and tourism direct gross domestic product via the Table 6 reconciliation; TDGDP adds net taxes on tourism products), 4.81 (recommended-aggregates list) and 4.88–4.94 (definitions of TDGVA and TDGDP).
- ¶8 [TG-3.3 Economic Activity Relevant to the Ocean](#), Section 3.7 (“Simplified proxy method for countries without TSA infrastructure”), including the Country B worked mini-example extended in Section 3.6 here.

9. ¶9 TSA:RMF 2008, tourism characteristic products (water passenger transport: passenger line and ferry, cruise ship, yacht) and tourism specific fixed assets (para 2.47, e.g. cruise ships, marinas).
0. ¶10 IRTS 2008, paras 2.13 and 2.61–2.63 (classification of cruise passengers as visitors, generally same-day visitors/excursionists, with treatment conditional on applying residence and economic-territory concepts to the ship) and para 10.77 (cruise fares recorded in the travel item of the balance of payments). Consistent with BPM6.
1. ¶11 TSA:RMF 2008, Table 7 and paras 4.62–4.68: employment in the tourism industries is measured on an establishment basis; seasonality and informality are identified as the major measurement challenges; the tourism-attributable portion is obtained by applying the industry tourism ratio (para 4.64), which assumes the visitor-serving fraction of output has the same production function as total output. See also OECD/UN Tourism guidance on the Employment Module linking employment data to the TSA.
2. ¶12 SF-MST (2024), paras 3.33–3.34 and Tables 3.4–3.5. Para 3.33 defines tourism leakage as operating surplus generated from tourism activities that does not fully accrue to local economic units, sets out the preferred resident/non-resident split of gross value added, compensation of employees and gross operating surplus, offers establishment-ownership counts (Table 3.3) as the fallback indicator, and warns that indicators derived from Table 3.5 must be adjusted using the tourism ratio for each industry or industries with a relatively lower tourism ratio (food and beverage serving is the cited example) may inappropriately dominate aggregated results. Para 3.34 covers the imported-input channel and the related OECD trade-in-value-added work.
3. ¶13 [TG-3.7 Governance Accounts](#), Section 3.3.5 “Compilable governance account tables”: the environmental protection expenditure account adapted from SEEA CF Table 4.4 (SEEA CF paras 4.49–4.50, 4.85), and the governance revenue tables that record environmental taxes by tax base (Table 3.7.10a, following SEEA CF paras 4.148–4.155), rent on marine natural resources (Table 3.7.10b), and sales of marine administrative services (Table 3.7.10c). A visitor-paid conservation levy is not automatically a tax: marine protected area access and visitor fees are carried at Table 3.7.10c where the payer receives site access and facilities commensurate with the amount paid, and the three-way test at TG-3.7 Section 3.3.5 governs the classification. That Circular also sets the rule that governance revenue and governance expenditure are recorded gross and are never netted, which is the accounting counterpart of the misconception noted above. Coastal and marine tourism also appears there under COFOG 04.7.3.
4. ¶14 UN Tourism (formerly UNWTO) & United Nations Statistics Division (2024). *Statistical Framework for Measuring the Sustainability of Tourism (SF-MST)*, adopted by the UN Statistical Commission at its 55th session (2024). Tourism–environment connection: paras 4.1–4.6.
5. ¶15 SF-MST (2024), paras 4.99–4.107: recreation-related ecosystem services defined following the SEEA Ecosystem Accounting (a final service to the visitor); carrying capacity (para 4.103); trade-offs with non-tourism ecosystem services such as coastal protection and water purification (para 4.106). See also SEEA Ecosystem Accounting (United Nations et al., 2021), Chapter 6.
6. ¶16 SF-MST (2024), para 6.50: “SF-MST does not inherently establish relevant thresholds since these will vary by location and over time”, whilst noting that its concepts and definitions can be used to describe thresholds and to monitor whether they are being approached or passed. Read with para 4.103, which recommends the comparison of total recreation-related services to measures of ecosystem carrying capacity and holds that the carrying-capacity measure should consider both the number of visitors and the change in condition of the ecosystem.
7. ¶17 SF-MST (2024), paras 4.82–4.94: tourism-related ecosystem asset register and regional ecosystem extent and condition accounts, including marine areas, with national classifications cross-walked to the IUCN Global Ecosystem Typology (paras 4.84, 4.86); para 4.89 – SF-MST does not recommend partitioning ecosystems or deriving a tourism share of an ecosystem asset.
8. ¶18 SF-MST (2024), para 4.93: ecosystem condition characteristics should cover the six classes of the SEEA EA ecosystem condition typology (ECT).
9. ¶19 Zulian, G., La Notte, A., Grammatikopoulou, I. and Zurbaran Nucci, M. (2024). *Nature-Based Tourism Accounting*. EUR 32029. Publications Office of the European Union, Luxembourg. JRC138538. <https://doi.org/10.2760/762803> (<https://doi.org/10.2760/762803>). Nature-based tourism is one of the services EU Member States are required to quantify under the amended Regulation (EU) No 691/2011. At EU level in 2018, 1,560.38 million overnight stays (58.1 per cent of all overnight stays) allocated to nature-based tourism across the eleven ecosystem types of Table 9, whose coastal beaches, dunes and wetlands class integrates the IUCN Global Ecosystem Typology. Major fires in 2018 reduced service use by 1.82 per cent, Portugal most affected at 15.9 per cent; burnt areas enter by exclusion from service-providing areas in the recreation opportunity map rather than through a condition account. Aggregating the same tourism statistics at NUTS 3 rather than NUTS 2 changes service use by 0.89 per cent. Marine ecosystems are identified as an outstanding gap.
0. ¶20 [TG-2.4 Environmental \(including Ecosystem\) Goods and Services](#), Section 3.10.1 (exchange value versus welfare value, and the SNA production boundary) and Section 3.10.5 (methods inappropriate for accounts, including consumer surplus measures and directly applied stated preference results). [TG-1.9 Safe Usage of Monetary Valuation](#) Section 3.3 states the same distinction in summary for decision-makers.
1. ¶21 SF-MST (2024), Section 4.2 and Tables 4.1–4.6 (tourism GHG emissions, solid waste, water and energy flow accounts), and Section 4.6 (para 4.161): only the tourism share of an environmental flow is included – in contrast to the whole-asset treatment of ecosystems in paras 4.79/4.89.
2. ¶22 SF-MST (2024), paras 4.143–4.145 (Annex 4.1). Para 4.144 recommends estimating the tourism share from physical factors specific to the activity (the example given is passenger kilometres and fuel volumes for energy use in passenger transport). Para 4.145 applies only “in the absence of directly collected data or modelled estimates” and computes the flow at industry level before applying the industry tourism output ratio, that ratio being an industry’s output sold to visitors divided by its total output, generally via a TSA following TSA:RMF 2008 Table 6. The by-construction identity noted in the text is a corollary of para 4.145 and is not stated in the framework.

3. ¶23 SF-MST (2024), para 4.79 (no tourism share of environmental assets; the contribution tourism activity makes to changes in an environmental asset may be determined but must not be interpreted as a share of the asset itself), para 4.74 (combining stock data on the quality of ecosystem assets with flow data on pollutants and emissions, with measurement concentrated in locations where the issue is apparent and potentially attributable to tourism rather than compiled across the whole country), paras 4.71–4.73 (pairing emissions to water with water quality in coastal and marine areas, recorded through an ecosystem condition account), and Annex 4.1 (paras 4.143–4.145) on the attribution of environmental flows to tourism.
4. ¶24 Turpie, J.K., Letley, G.K., Weiss, J. and Schmidt, K. (2022). Accounting for ecosystem services and asset value: pilot accounts for KwaZulu-Natal, South Africa, 2005–2011. *One Ecosystem* 7: e86392. <https://doi.org/10.3897/oneeco.7.e86392> (<https://doi.org/10.3897/oneeco.7.e86392>). Nature-based tourism valued as the direct value added from domestic and international tourism expenditure as reflected in the national accounts, with resource rent estimated using ratios from the South African Tourism Satellite Accounts and spatially allocated by photo-user density using the InVEST Recreation Model. The quoted statements on value increasing despite declining extent and condition, and on the outstanding counterfactual, are the authors' own.
5. ¶25 Laimer, P. and Weiss, J. (2016). *Pilot Study "Measuring Sustainable Tourism" (MST) Austria*. Statistics Austria, Vienna, for the World Tourism Organization. The study holds that benchmarking with fixed quantitative target values for each indicator is not possible, that sustainability and its measurement is a regional phenomenon for which evaluation at higher aggregated national levels is not feasible given regional heterogeneity, and calls on regional policy-makers to establish target values.
6. ¶26 SF-MST (2024), para 4.107, and SEEA Ecosystem Accounting Chapters 9–11 (monetary valuation, recommendation rather than standard status): monetary ecosystem-service values are complementary to, and must not be summed with, tourism direct gross value added.
7. ¶27 Bartolini, A., Di Gennaro, V., Reas, V., Mascolo, R.A., La Notte, A., Capriolo, A. and Ferrini, S. (2024). Ecosystem accounting for marine-based tourism provided by *Posidonia oceanica* in Italy. *One Ecosystem* 9: e129751. <https://doi.org/10.3897/oneeco.9.e129751> (<https://doi.org/10.3897/oneeco.9.e129751>). Condition proxied by shoot density (shoots/m²), with nitrogen and phosphorus concentrations as anthropogenic pressure proxies; no separate condition account table constructed; monetary results of EUR 6.1 million (2019) and EUR 3.7 million (2021), derived by applying travel cost as a price proxy to *Posidonia*-dependent arrivals and reported as exchange values. No Tourism Satellite Account aggregate is compiled.
8. ¶28 Zulian, G. and La Notte, A. (2022). How to account for nature-based tourism in Europe. An operational proposal. *One Ecosystem* 7: e89312. <https://doi.org/10.3897/oneeco.7.e89312> (<https://doi.org/10.3897/oneeco.7.e89312>). Exploratory SEEA EA supply and use account for Italy on Corine Land Cover Level 1 classes, compiled at national, NUTS 2, provincial and municipal scales; 56.69 per cent (246 million) of 2019 overnight stays allocated to nature-based tourism. Wholly physical – no monetary valuation. The authors state that the results are not intended to be used in any official documents or national statistics.

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