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PLASTIC WASTE PROFILE

Acknowledgements:

This brochure is a technical summary of the report *Plastic Waste National Level Quantification and Sectoral Material Flow Analysis, Fiji National Report*, that can be found here: https://www.iucn.org/search?key=plastics

Country overview

Key Facts	
Official Name	**Republic of the Fiji Islands**
Land area	18,333 km^2
EEZ	1.3 million km^2
Capital	Suva
Administration districts	15 provinces; divisional (Central, Eastern, Northern and Western)
Climate	Tropical maritime
Terrain	Volcanic island archipelago
Population	883,483 (2018)
Population distribution	Urban (56%), rural (44%)
Census date	2017
Language(s)	English (official), iTaukei (Fijian) and Fiji Hindi
Ethnicity	Indigenous Fijian 54%, Indo-Fijian 40%
Currency	Fijian dollar (FJD)
GDP per capita	USD 6,220
HDI	0.724
Exports	Top exports are water (USD 162m), non-filleted frozen fish (USD 83.9m), gold (USD 54.7m), processed fish (USD 49.3m), and fuel wood (USD 47.6m)
Education	15 years of schooling
GNI per capita	USD 5,860 (2019)

4
year initiative
2019-2022

6
islands
in the Caribbean and Oceania

3
sectors
tourism, fisheries and waste management

Overarching goal:

to demonstrate effective, quantifiable solutions to addressing plastic generation and leakage from small island developing states (SIDS)

Executive Summary

Under the Plastic Waste Free Islands, a National Quantification of Plastic Waste at sectoral level was done to identify the material flow analysis within the country to undertake a National Level Quantification of Plastic Waste and Sectoral Material Flow Analysis in three key sectors – household and commercial, tourism and fisheries – as stage one of the Plastic Waste Free Islands Project.

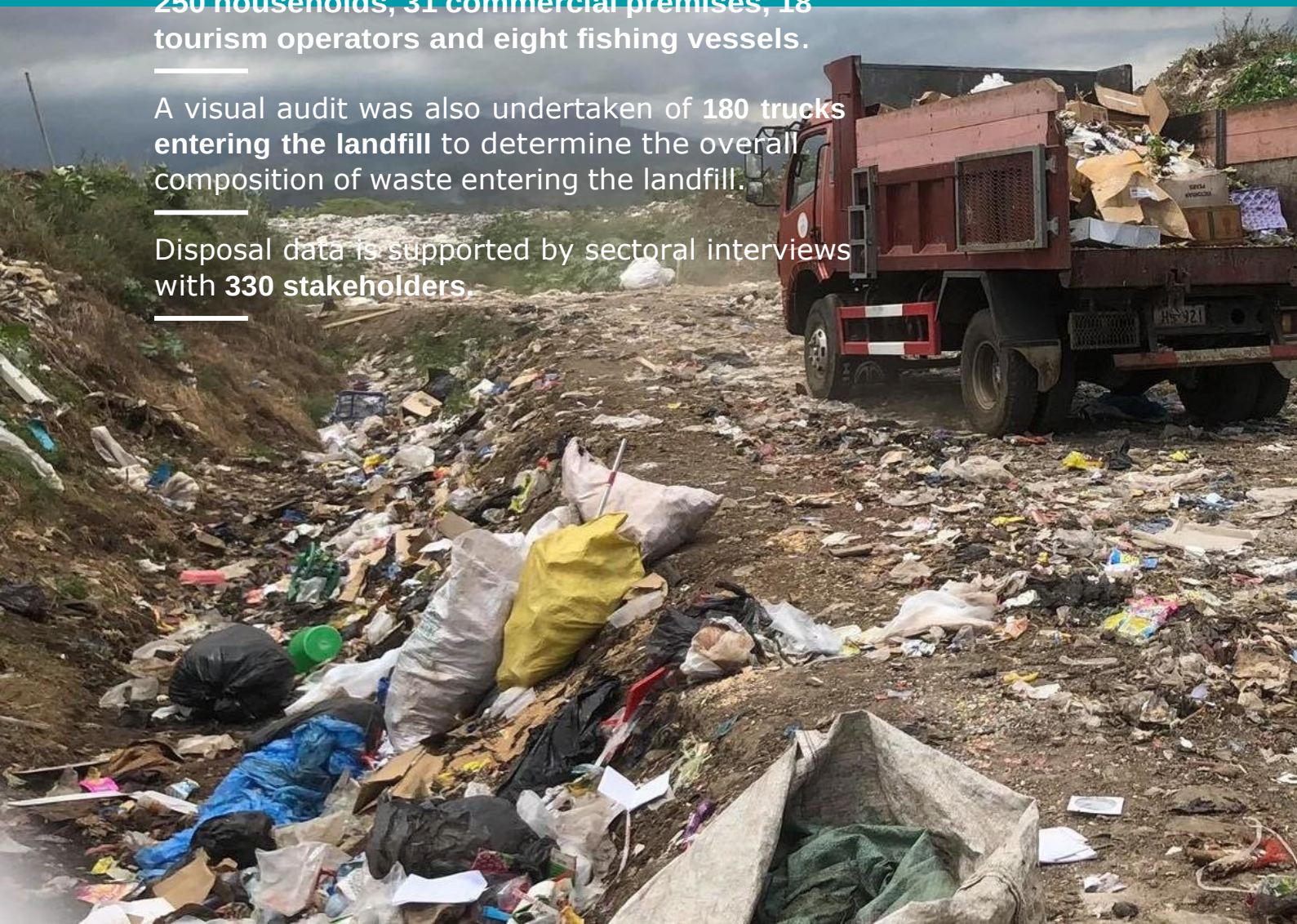
Island-wide plastic influx and outflux mapping (including imports and exports at a national level) tracked seven plastic polymer materials to identify sources, quantities and pathways of plastic waste generated and leaked per sector in Fiji.

Data collected provides an overall picture of the waste management landscape for Fiji and identifies the leakage of plastic material to provide a robust and comprehensive overview of the plastic flows.

The audit captured waste disposal data from **250 households, 31 commercial premises, 18 tourism operators and eight fishing vessels**.

A visual audit was also undertaken of **180 trucks entering the landfill** to determine the overall composition of waste entering the landfill.

Disposal data is supported by sectoral interviews with **330 stakeholders**.



WASTE MANAGEMENT SITUATIONAL ANALYSIS

1. Infrastructure

There are eight disposal sites in Fiji, which should provide sufficient capacity for the disposal of generated waste. Remote and rural areas, however, are still frequently without a waste collection service. Of the eight disposal sites, three are in environmentally acceptable conditions, whereas the remaining sites require upgrading to a minimum of a semi-aerobic landfill; in more detail:

- Naboro Sanitary Landfill is the only disposal site that entirely satisfies current environmental standards.
- There are three large-scale composting facilities in Fiji.
- Recycling infrastructure is limited and is not used at its full capacity.
- The potential for plastics recycling in Fiji is substantial and requires further investment.

2. Budget and levies

The national waste management budget is allocated by the Department of Environment, Ministry of Local Government and the Ministry of Health. These governmental entities have responsibility for solid waste management (SWM) in Fiji. The SWM budget in Fiji derives from several revenue streams, which include tipping fees (at three disposal sites), ECAL (plastic bag levy, taxes on luxury importation, certain services, income, etc.), licences (recycling, waste picking), littering fines and notices, and sales of compost and recyclables. The overall SWM expenditure includes staff salaries, equipment purchases and maintenance, landfill cost (operation and management), awareness programmes and clean-up campaigns.

3. Legislation

In the past several years, Fiji has developed and is currently working on the implementation of a number of bans for single-use plastics, including thin plastic bags (< 50 microns), Styrofoam, single-use plastic containers, straws, cups and utensils. The Climate Change Bill 2019 has comprehensively addressed most of the disposable plastic items of environmental concern.

Relevant legislation that addresses plastic pollution:

Environment and Climate Adaptation Levy (Plastic Bags) Regulations 2017 (plastic bag levy)

Environment Management (Budget Amendment) Act 2019 (plastic bag ban)

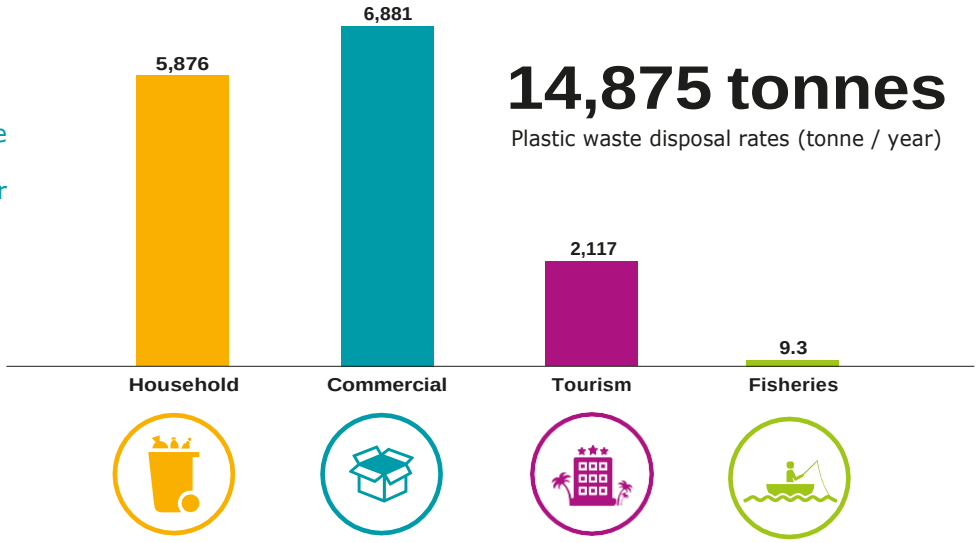
Climate Change Bill 2019

Customs (Prohibited Imports and Exports) Regulations 2019

Environment Management (Amendment) Act 2020 (polystyrene products ban)

WASTE MANAGEMENT FINDINGS

Plastic waste disposal rates in the assessed sectors in Fiji in (L) tonnes/year and (R) volume per year

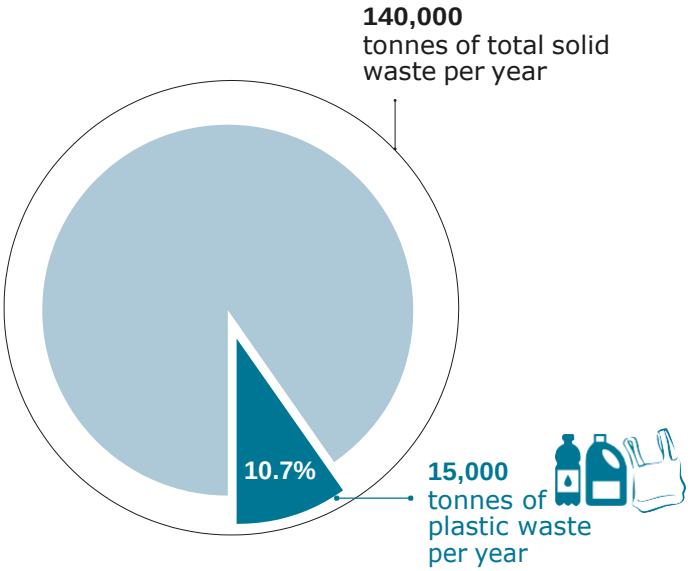


14,875 tonnes

Plastic waste disposal rates (tonne / year)

1. Audit findings

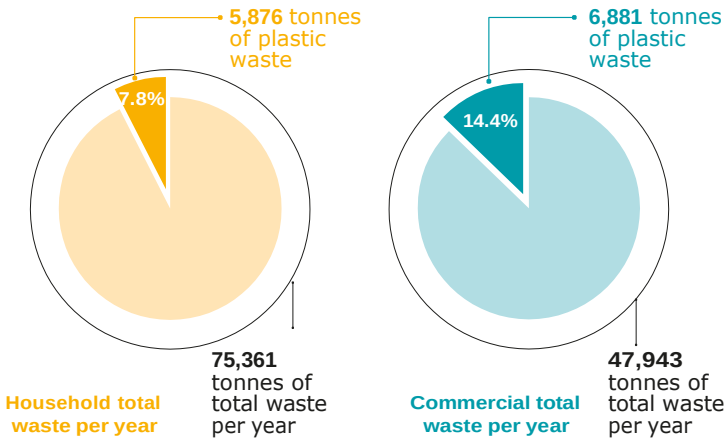
Overall, 140,000 tonnes of solid waste are disposed of in Fiji annually, of which around 15,000 tonnes are plastics. The tourism sector, particularly sea-based tourism (cruise and yacht activities), is a significant contributor to plastic waste (Figure 2). On daily basis, tourism land activities (hospitality) contribute 199 grams of plastic waste per tourist per day, which can be translated to six 1.5-litre plastic bottles per tourist per day.



2. Household and commercial

Households dispose of 75,361 tonnes of waste per year, of which 5,876 tonnes are plastics.

Commercial businesses dispose of 47,943 tonnes of waste per year, of which 6,881 tonnes are plastics.



2.4% of **commercial plastic waste** is being **burned.**

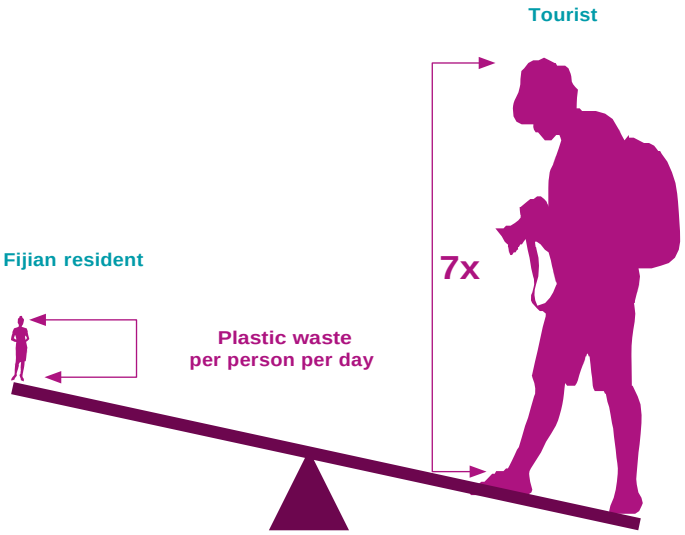
The most common plastic items in household and commercial waste are **soft plastic packaging** and **various single-use plastics**.

Around **40%** of all **leaked plastic** waste in Fiji **comes from households** and **45% from commercial activities**.

3. Tourism

- 968,926 tourists.
- Overall, **tourists generate 7 times more plastic waste per person per day** than **a Fijian resident does.**
- Land-based accommodation accounts for **94%** of plastic waste disposal by the tourism sector.

Polystyrene was 6% of all tourism waste.



13% of tourism waste is plastic.

The most common item in the tourism waste stream was **Styrofoam takeaway containers (47% of all tourism plastic waste).**

4. Fisheries

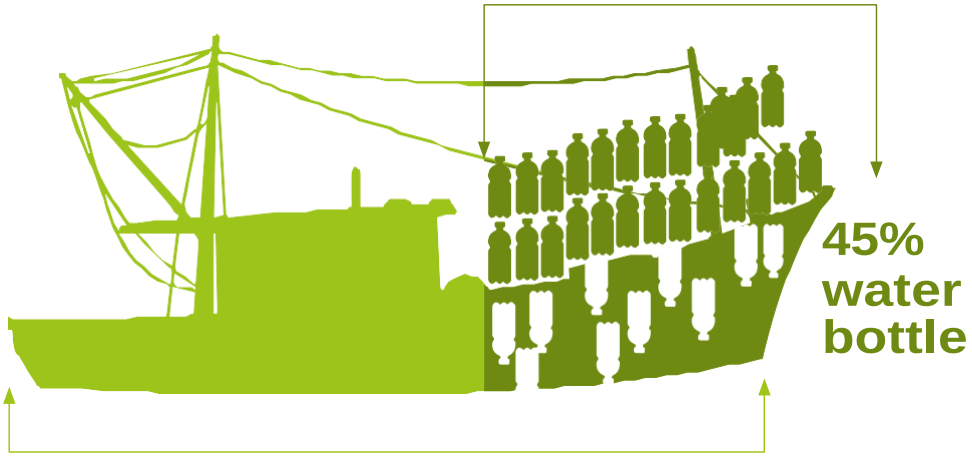
- The Fiji fishing fleet comprises approximately **93 international vessels.**
- The fleet also includes **1,276 domestic/ artisanal** vessels.
- Fisheries-based consumable waste includes 5.4 tonnes of PET, 2 tonnes of PP and 0.8 tonnes of 'other' plastics.
- In addition, Fiji's fishing fleet leaks 88 nets, 116 traps and 2,454 lines in the form of abandoned, lost, discarded fishing gear.

The fisheries sector disposed of **9.3 tonnes of plastic waste** in 2019.

PET accounted for almost 60% of fisheries plastic waste, followed by polypropylene (22%).

The **most common item** in the fisheries plastic waste is the **water bottle (45%).**

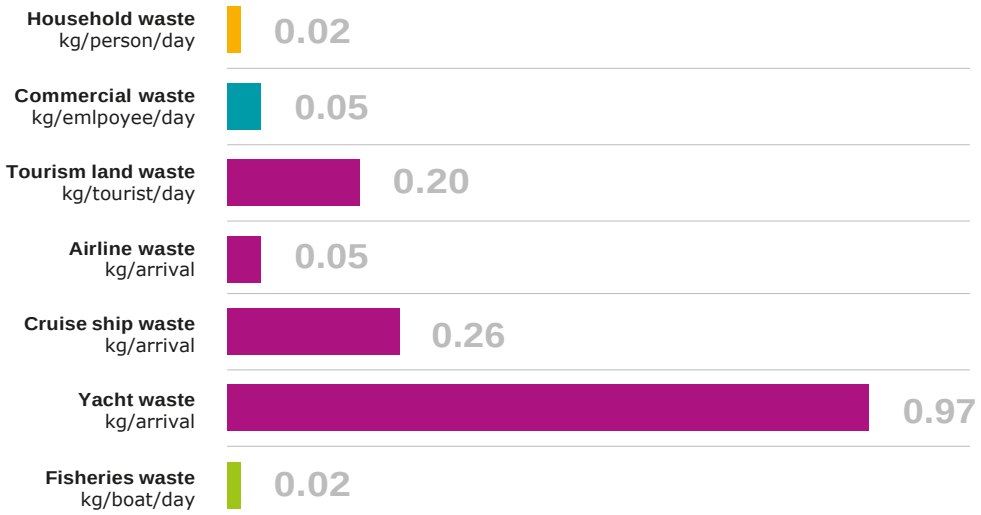
The fisheries sector leaks 2.9 T/yr of consumer-based plastic and 19.9 T/yr of fishing gear.



5. Plastics disposal contribution per sector

During 2019, **14,875 tonnes of plastic** was disposed of in Fiji. Disposal rates and composition of the waste by polymer types are demonstrated in the graphs below.

Total waste disposal intensity per Capita in Fiji, 2019



The fisheries sector disposed of **9.3 tonnes of consumer** plastic waste in 2019 and annually **65 tonnes of fishing gear containing plastic is imported to Fiji**. Of this, the fisheries sector leaks 2.9 T/yr of consumer[1]based plastic and 19.9 T/yr of fishing gear.

PET accounted for almost **60% of consumer** plastic waste, followed by polypropylene (22%). The most **common** item in the consumer fisheries plastic waste is the water bottle (45%).

Fiji's fishing fleet leaks 88 nets, 116 traps and 2,454 lines in the form of abandoned, lost, discarded fishing gear. **The most common item of fishing gear plastic is nylon fishing lines (85%).**

PLASTIC LEAKAGE

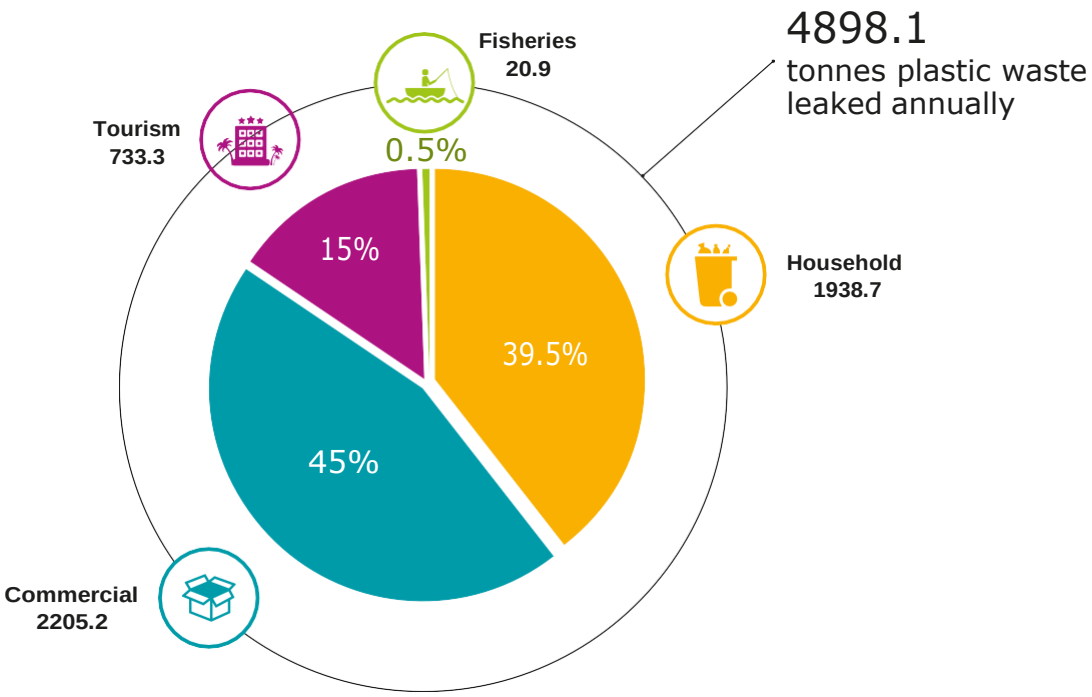
Overall, **24.7%** (95% credible interval: 8.5%–40%) **of imported plastic was leaked or held in long-term reservoirs** away from landfill in Fiji, equating to **4,877 tonnes** (Table 1).

Table 1: Overall plastic leakage per polymer in Fiji from the household and commercial, tourism and fisheries sectors

	Leakage percent (95% credible interval)
PET (1)	20.7% (0.1%–46%)
HDPE (2)	25.2% (0.1–62%)
PVC (3)	32.6% (0.2–79%)
LDPE (4)	22.8% (0.05–57%)
PP (5)	30.0% (0.2–71%)
PS (6)	28.4% (0.5–61%)
Other (7)	24.2% (0.1–49%)
Overall	**24.7% (8.5%–40%)**

Plastic leakage in terrestrial and marine environment per sector

We assumed most plastic waste leaked from the commercial sector – almost 2,205 tonnes annually – followed by the household sector with 1,939 tonnes annually.



Because of a lack of direct samples for fishing gear, potential leakage estimates were calculated using two methods: 1) potential leakage of fishing gear based on type of fishing activity, represented in number of fishing gear items leaked; and 2) potential leakage of fishing gear based on import data, represented in tonnes.