

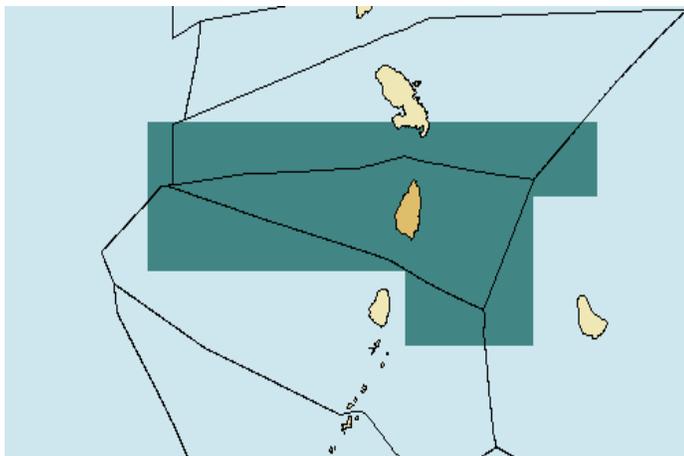
ST. LUCIA (LC)



Country Map from World Factbook.



Flag of St. Lucia (CIA World factbook)



Map of St. Lucia's EEZ (Sea Around Us)

Geographic Coordinates: 13 53 N, 60 68 W

Terrestrial extent: 606 km²

Coastline: 166 km

Territorial Sea:

EEZ Extent: 15,617 km² (Sea Around Us)

EEZ Coordinates:

Shelf Area: 544 km² (Sea Around Us)

Population: 168,458 (July 2006 est.) (CIA World Factbook)

Fisheries Landings (production in tons): 1500 tons live weight in 1998 (FAO Country Profile)

Other countries operating within this EEZ: According to the St. Lucia FMP, the Marine Police Unit of the Royal St. Lucia Police say that illegal fishing by non-national vessels remains problematic. No foreign vessels have been granted licenses for fishing in St. Lucia waters (Anon 2001).

Description: Saint Lucia, previously a territory of the UK, is an independent nation situated north of St. Vincent and the Grenadines and south of the French overseas territory Martinique. There are 11 administrative divisions of St. Lucia, which are also important in fisheries management. They are: Anse-la-Raye, Castries (the capital), Choiseul, Dauphin, Dennery, Gros-Islet, Laborie, Micoud, Praslin, Soufriere, and Vieux-Fort. English is the official language, but French Patois is also spoken.

The Fisheries of St. Lucia

Overview

Fisheries in St. Lucia remain mostly artisanal, and the fishing industry is small compared to other industries. The agricultural sector is the main contributor to the GDP, providing 22%. Within the agricultural sector, fisheries contribute 25% of that 22% (James 2002). Most of the fish is consumed locally, and fisheries resources are relatively underexploited, with the fish caught in St. Lucia meeting only half of the nation's demand. There is a negligible export market, and the bulk of imports are exotic seafood (smoked salmon, shrimp, scallops) and smoked/salted cod and herring (FAO 2000). Many locals consume and prefer the canned and smoked fish.

Open pirogues now outnumber the more traditional canoes, but both remain the most common vessels used in St. Lucia. A small, local, non-mechanized longline fleet is beginning to develop (Anon 2001).

According to the Ministry of Agriculture, Forestry and Fisheries, the number of fishermen was estimated at 2020, and the number of registered vessels was 994 for the year 2000 (Anon 2001). An FAO fishery profile (2000) reported 1873 registered fishermen, of which 59% are full time, and approximately 120 fish vendors and processors.

The government continues to strive for fisheries development, particularly as a means of income and sustenance for rural coastal communities, given the pressing issues of unemployment and underemployment in St. Lucia. In 1985, Canada provided a USD\$2.5 million grant, through which the St. Lucia Fish Marketing Corporation was established. This provided local fishermen with processing, storage, and marketing facilities, enabling St. Lucia to become self-sufficient in fresh fish production (Anon 2006).

- 1. What fisheries exist in this territory and what are the target species? Are they fished by artisanal or industrial fishers? Are industrial fishers national or foreign?***

The **shallow reef-fish fishery** occurs on or around shallow coral reefs and shallow shelves, and targets such species as hinds (Serranidae), parrotfish (Scaridae), squirrelfish (Holocentridae), triggerfish (Balistidae), snappers (Lutjanidae), and grunts (Pomadouridae). Other minor, yet important, species caught in this area are lobsters, conch and sea urchins.

The **deep slope (bank) fishery** occurs near the edges of insular landmark areas or deep slopes, and targets species such as snappers (Lutjanidae), and groupers (Serranidae). This fishery mainly targets red snapper (Anon 2001).

The **coastal pelagic fishery** targets inshore pelagics such as jacks (Carangidae), herring (Clupeidae), silversides (Atherinidae) and ballyhoo (*Hemiramphus sp.*).

The **offshore oceanic pelagic fishery** targets large migratory species such as tunas (Scombroidei), billfish (Istiophoridae), dolphinfish (*Coryphaena hippurus*) and wahoo (*Acanthocybium solandri*).

The flyingfish fishery catches predominantly (over 95%) the four-winged flying fish (*Hirundichthys affinis*).

The longline fishery is not well developed. Currently, there are a few non-mechanized vessels.

There are 3 whaling vessels that compose the cetacean fishery (which targets whales, dolphins and porpoises), and other small vessels also opportunistically target small cetaceans. Gaskin and Smith (1977) report that short-finned pilot whales (or blackfish) were the main target of the fishery in the 1970s, and it was supplemented by numbers of *Stenella cf.* and *S. longirostris*. Reeves (1988) also found blackfish to be the main species. Sperm whales were reportedly taken rarely. Killer whales and other baleen whales were also reportedly taken, though not as frequently (Reeves 1988). St. Lucian whalers do not appear to target humpback whales. Although some species are known, the variety of local names for cetaceans makes it difficult to determine with certainty which species have been captured by the whaling fishery investigated by Reeves, and by Gaskin and Smith.

The Small Cetaceans Report (IWC 2006) had little recent information on St. Lucian fisheries, except that annual takes of bottlenose dolphins were given as 2 per year in 1999 (IWC 2001) and 20 per year in the early 1980s (Price 1985 in IWC 2006).

In 1999, St. Lucia reported an annual catch of 8 pilot whales, whereas an annual take of approximately 35 individuals was estimated for the early 1980s (IWC 2006).

An unknown number of spinner dolphins are also recorded as taken in the St. Lucia fishery by the IWC in 2001 (IWC 2006).

There are no recent reported takes of the Atlantic Spotted Dolphin, but 12 were reported taken in 1999, with an estimated annual take of around 60 in the early 1980s (IWC 2006). Striped dolphins are also known to be present in St. Lucian fisheries, and Price reports an annual take of 10 common dolphins in the early 1980s.

Two pygmy killer whales were reported for 1999 reporting year (IWC 2001), and Price (1985) reported an annual catch of 18 in the 1980s. Three false killer whales were reported for 1999 and an annual catch of 12 for the early 1980s.

There has been a moratorium on sea turtle take in St. Lucia since March 1, 1996. However, d'Auvergne and Eckert (1993) reported 10-15 fishermen operating 15-20 turtle nets who relied on sea turtle harvest as a means of seasonal subsistence. There was

discussion of purchasing turtle nets from these fishermen and attempts to provide them with alternate means of livelihood so that a moratorium could go into effect as soon as possible. However, funds to accomplish these tasks were insufficient for all the necessary tasks. Nonetheless, a moratorium was put into place three years later.

2. *What are the specific vessel and gear types used in each fishery?*

The shallow reef species are caught with fish traps and hand lines. The Antillean z-traps, made of galvanized metal wire, are mainly used for demersals. Smaller traditional woven bamboo z-traps, known locally as “tombe levee”, are also common (Anon 2001). The minimum mesh size for these traps is 38 mm (Gobert 2000). Small wooden boats and fiberglass pirogues are used in trap fishing.

Demersal reef fisheries in Laborie also use spearguns and trammel nets to target demersal reef species, although the use of these is not authorized (Hutchinson 2000). Laborie fishermen also report using the palang for demersal species such as snapper.

The deep slope fish species are caught with a palang, or an artisanal, bottom-set longline, by vertical longlines, and by Antillean z-type fish pots.

Coastal pelagics are caught with encircling nets, such as gillnets/fillet nets¹ and beach seines. Cast nets are also used to catch fish primarily as bait for other fisheries.

Large, offshore pelagics are caught by trolling and increasingly by non-mechanized longlines (Anon 2001 and d’Auvergne and Eckert 1993). These vessels are usually 5-9 meter-long fiberglass pirogues or wooden canoes powered mainly by 40-115 Hp outboard engines (FAO 2000). They may also be taken by seine nets.

Most fishermen who go to sea have hand harpoons, and opportunistically target cetaceans (Reeves 1988).

3. *Where and when are the specific gear types deployed for each of these fisheries (seasonality, trip duration, etc)?*

Some Laborie reef-fish fishermen operate year-round within nearshore reef areas, and also go deep-sea fishing from November to June (Hutchinson et al. 2000). Others fish in reef areas of Laborie from June to December, during the low season for offshore migratory species such as dolphinfish, wahoo, and tuna, because they do not want to fish offshore. Fish pots and traps are set in depths of less than 50 meters.

Deep slope fish species are taken mainly from mid-August to mid-November during the “low” season for pelagics. Juveniles are found in deeper areas of the island shelf, and adults are fished on offshore banks, such as those in the inter-island channels. Species on the shelf slopes and banks are caught at 200 meters deep or more (Anon 2001).²

The coastal pelagic fishery occurs mainly on the west coast in sheltered bays with sandy to muddy bottoms. The coastal pelagic fishery is the primary fishery in Roseau, Soufriere Region, Anse la Raye, Gros Islet and Canaries. Soufriere is the most important landing site for this fishery, offshore fishing grounds on the central west coast to target pelagics (Trist 1999).

The high season for large offshore pelagics is from November/December to June. Some ocean pelagics can be taken by seine nets relatively close to shore, particularly in Soufriere Bay because of the steep drop off (Trist 1999).

¹ A fillet net is a gillnet that is used as an encircling net, rather than set and anchored in one place.

² See Appendix 3 for a map of fishing grounds.

There has traditionally been a harvest of pilot whales in St. Lucia, and the main centers were Castries and Vieux Fort, with Soufriere as a secondary center (Gaskin and Smith 1977). Reeves (1988) reported between 30 and 100 small cetaceans as the average annual catch at Soufriere.

4. What species of marine mammals, sea turtles and seabirds occur and are caught as bycatch or may be at risk for capture or interaction with fisheries? Please describe the extent of these interactions, and whether they are considered to be conservation concerns.

Marine Mammals

Historically, marine mammal catches were not incorporated into the fisheries data collection systems. Estimates of cetacean catches from 1995 – 1999 are available from the St. Lucia Fisheries Department unpublished records (Mohammed and Joseph 2003). From this and other sources, Mohammed and Joseph reconstructed fisheries catches to derive a list of marine mammal species targeted by St. Lucian fisheries. This is shown in Table 1, along with a list of marine mammals with distributions that include St. Lucian waters (Sea Around Us).

The melon-headed whale, *Peponocephala electra*, was recorded as present in catches in the St. Lucia fishery in 1999 (IWC 2001), but the number of individuals taken – presumably a low number – was not given (IWC 2006).

Table 1: Marine mammal species found in St. Lucia and exploited by St. Lucian fisheries

Sea Around Us (Species present)		Mohammed and Joseph (2003) (Species exploited)	
Scientific name	Common Name	Delphinus delphis	Common dolphin
<i>Balaenoptera acutorostrata</i>	Dwarf minke whale	<i>Delphinus delphis</i>	Spinner dolphin
<i>Balaenoptera borealis</i>	Sei whale	<i>Globicephala macrorhynchus</i>	Short-finned pilot whale
<i>Balaenoptera brydei</i>	Brydes whale	<i>Lagenodelphis hosei</i>	Frasers dolphin
<i>Balaenoptera musculus</i>	Blue whale	<i>Megaptera novaeangliae</i>	Humpback whale
<i>Balaenoptera physalus</i>	Fin whale	<i>Phocoenoides dalli</i>	Dall's porpoise
<i>Delphinus delphis</i>	Short beaked common dolphin	<i>Pseudorca crassidens</i>	False killer whale
<i>Eubalaena glacialis</i>	North Atlantic right whale	Pygmy killer whale	<i>Feresa attenuata</i>
<i>Feresa attenuata</i>	Pygmy killer whale	<i>Stenella frontalis</i>	Atlantic spotted dolphin
<i>Globicephala macrorhynchus</i>	Short-finned pilot whale	<i>Tursiops truncatus</i>	Bottlenose dolphin
<i>Grampus griseus</i>	Rissos dolphin		
<i>Kogia breviceps</i>	Pygmy sperm whale		
<i>Kogia simus</i>	Dwarf sperm whale		
<i>Lagenodelphis hosei</i>	Frasers dolphin		
<i>Megaptera novaeangliae</i>	Humpback whale		
<i>Mesoplodon densirostris</i>	Blainvilles beaked whale		
<i>Mesoplodon europaeus</i>	Gervais beaked whale		
<i>Mesoplodon mirus</i>	Trues beaked whale		
<i>Peponocephala electra</i>	Melon-headed whale		
<i>Physeter macrocephalus</i>	Sperm whale		

<i>Pseudorca crassidens</i>	False killer whale
<i>Stenella attenuate</i>	Pantropical spotted dolphin
<i>Stenella clymene</i>	Clymene dolphin
<i>Stenella coeruleoalba</i>	Striped dolphin
<i>Stenella frontalis</i>	Atlantic spotted dolphin
<i>Stenella longirostris</i>	Spinner dolphin
<i>Steno bredanensis</i>	Rough-toothed dolphin
<i>Tursiops truncates</i>	Bottlenose dolphin
<i>Ziphius cavirostris</i>	Cuviers beaked whale

Sea Turtles

In spite of the moratorium on sea turtle take, eggs are still taken illegally and there is some (unstated) level of incidental catch (Anon 2001) in nets (Mohammed and Joseph 2003).

According to the Sea Turtle Recovery and Action Plan (d’Auvergne and Eckert 1993), the extent of incidental capture is not known, although there is some anecdotal evidence that it does exist. Occasionally, sea turtles are caught in beach seines or gill nets set for fish, and there is one report of a green turtle drowning after entanglement in the line of a fish pot. The longline fishery in St. Lucia is small and non-mechanized, so poses less threat to sea turtles than the longline industries of other Caribbean nations. The bottom set longlines (palangues) do not appear to catch sea turtles (d’Auvergne and Eckert 1993). Trawls are also not used in St. Lucia, so bycatch in trawl nets does not occur, and consequently, there is no push for the fisheries department to adopt TEDs.

Sea Birds

I found no information on sea bird abundance or their interactions with fisheries in St. Lucia. However, due to undeveloped longline or trawl fisheries in this nation, it is not likely that sea birds are threatened by mortality associated with bycatch in St. Lucian fisheries. See below for more information on St. Lucia’s seabird populations.

St. Lucia is an important stopover point for many migratory birds. In an effort at better land-use management, organizations such as the St. Lucia National Trust are attempting to better understand the uses of its landscapes by wildlife such as migratory waterfowl, particularly as it relates to the development of wetlands and mangrove forests in St. Lucia. One report details the needs and proposes methods of recording birdlife by avid birdwatchers (John 2004). This report lists sightings of various species of birds, including seabirds. The seabird species listed by this report are found in Table 2. This list is likely representative of the seabird life found in surrounding islands.

Table 2: Seabird species observed in St. Lucia
(John 2004)

Common Name	Scientific Name
Royal Tern	<i>Sterna maxima</i>
Least Tern	<i>Sterna antillarum</i>

Bridled Tern	<i>Sterna anaethetus</i>
Brown Noddy	<i>Anous stolidus</i>
Caspian Tern	<i>Sterna caspia</i>
Roseate Tern	<i>Sterna dougallii</i>
Sooty Tern	<i>Sterna fuscata</i>
Common Tern	<i>S. hirundo</i>
Sandwich Tern	<i>S. sandvicensis</i>
Gull billed Tern	<i>S. nilotica</i>
White tailed Tropicbird	<i>Phaethon lepturus</i>
Red billed Tropicbird	<i>P. aethereus</i>
Audobon's Shearwater	<i>Puffinus lepturus</i>
Greater Shearwater	<i>P. gravis</i>
Sooty Shearwater	<i>P. griseus</i>
Wilson's Storm Petrel	<i>Oceanites oceanicus</i>
Common Black headed Gull	<i>Larus ridibundus</i>
Herring Gull	<i>Larus ridibundus</i>
Black legged Kittiwake	<i>Rissa tridactyla</i>
Pomarine Jaeger	<i>Stercorarius pomarinus</i>
Laughing Gull	<i>Larus atricilla</i>
American Oystercatcher	<i>Haematopus palliatus</i>
Brown Pelican	<i>Pelecanus occidentalis</i>
Anhinga	<i>Anhinga anhinga</i>
Red Footed Booby	<i>Sula sula</i>
Masked Booby	<i>Sula leucogaster</i>

From this list, we can determine which of these are commonly caught in fishing gear elsewhere, and extrapolate a risk for bycatch for similar gear types that are found in this area. We may also speculate which of these species ought to be present on nearby islands, and which may be at risk for bycatch in the fisheries of nearby island nations that otherwise have no reports of seabirds.

5. *What collection methods (observer programs, etc.) exist for gathering fishing effort and bycatch data for each fishery?*

The Department of Fisheries has 9 data collectors and two fisheries wardens responsible for surveillance and enforcement (Anon 2001).

Data is collected by the Department of Fisheries at eight of the seventeen landing sites around St. Lucia, namely Gros Islet, Castries, Choiseul, Laborie, Soufriere, Micoud, Vieux-Fort, and Dennery. The last two handle over 40% of the total landings. Fisheries collectors gather data on the total number of boats out per day, size of crew per vessel, time departed and time returned, vessel identification number, fuel used, zone fished,

gear used, volume of catch (actual weight, fisher estimate or data-collector's estimate) per vessel, species weight, and price per pound of fish. Data is collected for fifteen randomly selected days each month, and monthly catches are estimated from this data (James 2002).

This information is recorded in collection booklets, which must be completed each day, and submitted to the Department of Fisheries at the end of each month. Data are then entered into the TIP (Tip Interview Programme) database.

Fishers are required to register, and they are issued with identification cards. To register, they need proof of engagement in fishing activities, proof of identification, a registration number from the National Insurance Scheme, proof of citizenship, and a small fee.

Vessel registration and licensing requires proof of ownership of the vessel, owner's proof of citizenship, type and size of engine to be used, and proof of engagement in fishing prior to purchasing the vessel. This information is entered into the Licensing and Registration System (LRS) database. In order for a vessel to be registered, the vessel must be fit for sea-going, and possess basic gear and safety equipment.

The requirements and limitations listed in the Plan for Managing the Fisheries of St. Lucia (Anon 2001) include lack of data, enforcement, manpower, resource personnel, and training.

6. Are there databases or datasets (including geospatial databases) on fisheries, fishing effort or bycatch of mammals, birds, or turtles? Please describe.

The TIP (Trip Information Program) and LRS (License and Registration System) databases contain information on all registered vessels and reported catches, areas fished, etc, of St. Lucian fisheries.

7. What bycatch studies or bycatch mitigation projects exist for sea turtles, sea birds and marine mammals?

Sea Turtles

There are multiple ongoing projects in St. Lucia, some as part of the National Biodiversity Program, under the Ministry of Agriculture, Forestry, and Fisheries. The National Biodiversity Strategy and Action Plan Project 15 describes the establishment of a sea turtle monitoring program (Anon Unknown). In addition to population assessments and nesting beach monitoring, the program will assess the impacts of various human impacts, including fishing, on sea turtle populations. Although there is a moratorium on sea turtle take, fisher demands and other public pressure warrants the need for sea turtle assessments. This project will be implemented by the Department of Fisheries, in collaboration with community groups.

The Desbarras Turtle Watch Project was officially launched in April 2001 under the St. Lucia Heritage Tourism Project, although turtle monitoring has occurred along Grand Anse Beach for more than a decade beforehand (Anon Unknown). This beach in northern St. Lucia has been monitored by the NGO Saint Lucia Naturalists' Society and the Department of Fisheries of the Ministry of Agriculture, Forestry and Fisheries. Although the program does not deal with fisheries impacts on sea turtles, it serves as a

national example of growing effective community-based management for the region, and growing local interest in sea turtle conservation could have impacts on the mitigation of sea turtle interactions with fisheries, particularly if fisher pressure and reactions against the moratorium continue to grow.

Sea Birds

No Info Found

Marine Mammals

No info found.

8. Are there bycatch research and mitigation projects for other taxa, such as non-target fish or shark species?

The management and action plans for St. Lucian fisheries propose the introduction of more selective gears, but without reference to any particular species whose bycatch they are trying to mitigate (Anon 2001).

9. Policy/Regulatory Framework

What policy/regulatory framework exists to guide fisheries or bycatch management?

Major law/legislation is the Wildlife Protection Act of 1980

http://www.slumaffe.org/Fisheries_Department/Fisheries_Regulations/fisheries_regulations.html

Treaties and Conventions to which St. Lucia is a member (from Sea Around Us)

Short Title	Long Title
CARICOM	Caribbean Community
Stradd. /Highly Migr. Fish St. Agr. *	Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks
World Heritage Convention	Convention concerning the Protection of the World Cultural and Natural Heritage
Cartagena de Indias**	Convention for the Protection and Development of the Marine Environment of the Wider Caribbean Region
CBD	Convention on Biological Diversity
CITES***	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Basel Convention	Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
IMO Convention	Convention on the International Maritime Organization
Lome IV	Fourth ACP - EEC Convention
IWC****	International Whaling Commission
MP	Montreal Protocol for the Protection of the Ozone Layer
OECS	Organization of Eastern Caribbean States
UNCLOS*****	United Nations Convention on the Law of the Sea
UNFCCC	United Nations Framework Convention on Climate Change
WECAFC	Western Central Atlantic Fishery Commission

* Date of Ratification by St. Lucia August 9, 1996

** Date of Ratification by St. Lucia March 27, 1985
*** Date of Entry into Force in St. Lucia March 15, 1983
**** Date of Entry of St. Lucia June 29, 1981
***** Date of Ratification by St. Lucia March 27, 1985
Dates taken from St. Lucia National Reports BPOA +10

Fisheries-related legislation is listed in section 4.3 of the Plan for Managing the Fisheries of Saint Lucia. It is as follows:

Primary Legislation:

The *Fisheries Act (1984) and Regulations (1994)*, which are based on the OECS harmonized legislation, covers the establishment of a fisheries advisory committee, fisheries access agreements, local and foreign fishing licensing, fish processing establishments, fisheries research, fisheries enforcement and the registration of fishing vessels. This act also specifies conservation measures such as prohibiting the use of any explosive, poison or other noxious substance for the purpose of killing, stunning, disabling, or catching fish; closed seasons, gear restrictions and the creation of marine reserves. It gives the Minister responsible for fisheries the authority to create new regulations for the management of fisheries as and when necessary.

Other fisheries-related legislation:

- Forest, Soil and Water Conservation Ordinance (1945) (control use of mangroves)
- Crown Lands Ordinance (1946) (establishes Crown Land Committee to review and make recommendations on the allocations/use of crown lands)
- The Minerals vesting Act (1966) (exploitation of minerals)
- Beach Protection Act (1967) (control of sand mining)
- Land Development (Interim) Control Act (1971) (established a Development Control Authority to review and determine development plans)
- Pesticides Control Act (1975) (controls use of pesticides)
- Public Health Act (1975) and Regulations (regulatory oversight for sewage, industrial and solid waste disposal)
- Wildlife Conservation Act (1980) (control of protected species)
- Tourism Industry Development Act (1981) (tourism promotion)
- Water and Sewage Authority Act (1984) (sewage treatment and disposal)
- The Maritimes Areas Act (1984) (addresses some aspects of marine pollution)
- Solid Waste Management Authority Act (1996) (makes provision for Solid Waste Management Authority and details their function)
- National Conservation Act (1999) (control, maintain and develop beaches and protected areas)
- Oil in Navigable Water Act (cap 91) (some aspects of oil pollution within the marine environment)

Regional Fishing Agreements: OECS Common Fisheries Zones for surveillance have been established and similar zones for fishing that have been agreed upon in principle are

in the process of implementation. The government of St. Lucia would only consider member states be given access to straddling and offshore pelagic stocks (not to shelf resources such as demersals and coastal pelagics). No foreign vessels have been granted licenses for fishing in St. Lucia waters.

10. Discussion

Have research and management needs, priorities or constraints been identified or recommended? (include gear/technological developments or prohibitions that might affect fisheries or bycatch)

The Soufriere Marine Management Area (SMMA) was established in 1995. This 11-kilometer length of coastline comprises marine reserves, fishing priority areas, yacht mooring areas, recreational areas and multiple use areas. This has proven to be a success in cooperative management of marine resources among various stakeholders, which has resulted in, among other things, improvement in the status of coral reefs and fish stocks in marine reserves and fishing priority areas, and increase in fishers' catches.

While not directly related to issues of bycatch, it highlights the success of the Fisheries Department in working with marine resource users, and the concern of stakeholders over fisheries health, and their desire and willingness to improve fisheries. This same interest could potentially be tapped into in the future with respect to bycatch issues.

St. Lucia previously had 12 moored FAD, but only one remains near the SMMA. It is heavily used and successful catches around the unit, as well as fisher interest, has prompted the fisheries division to begin repairs and replacements of the lost units (James 2002). There was no mention of fishing methods employed around the FAD, but local fishers reportedly have landed bigeye tuna after switching methods due to fisher technique exchange between Martinique and St. Lucia (James 2002).

11. What research and management needs, priorities, or constraints exist?

From Caribbean Regional Report on the Implementation of the Barbados Programme of Action for the Sustainable Development of Small Island Developing States: <http://www.sidsnet.org/Mauritius2004/NAR.html>

Constraints

A Legal and Institutional Review of Environmental Management in St. Lucia (2002) identifies four major constraints over the past 10 years in this sectoral area. These include:

- Coastal and marine resources are dispersed among several agencies, and there exists no comprehensive legislation or a coordinated institutional framework to provide for the management of coastal or marine resources or to regulate development in coastal and marine areas;
- Many of the laws that exist are outdated and do not reflect current approaches towards integrated resource management. These laws are sectoral in nature, and do not establish the co-ordination and collaboration necessary to ensure that coastal and marine resources are managed in a sustainable manner;
- The enforcement of fisheries related laws by national law enforcement agencies are given comparatively low priority, due to limited manpower and other resources; and

- Lack of comprehensive ongoing public awareness campaign, and lack of scientific information.

Recommendations

St. Lucia needs to develop, implement and promote through public awareness campaigns the 'Island System Management' concept and build upon lessons learnt and replicating relevant local and regional successes in coastal and marine resource management. Other recommendations include;

- Development and enforcement of integrated and consolidated legislation, guidelines and standards to provide for the management of coastal and marine areas;
- Revising of the Fisheries Act to promote sound and sustainable management of fishery resources; and establishment of legislation to provide for the creation, management and operation of fisherman's co-operatives, and ensure compliance with safety regulations;
- Establishment of a regulatory framework that will impose user fees to provide support to community based initiatives aimed at the designation and management, and enforcement of marine parks and fishery sanctuaries.

12. Contact: If there are other individuals in relevant government agencies or non-governmental organizations that may be able to assist us with information on bycatch of sea turtles, sea birds and marine mammals, please provide their names and contact details below

C. Lyndon John – wrote December 2004 paper Migrant Bird Records for St. Lucia, West Indies. Used to be a local forestry employee birding guide
Email: LynJohn1@yahoo.com

For St Vincent, Fitzroy Springer email: springball@vincysurf.com
Dominica, Bertrand Jno.-Baptiste email: dr_birdy2@cwdom.dm

Paul Butler
Birds and Forestry
Vice President, Rare

NGO Covering Marine Issues
Soufriere Marine Management Association
3 Bay Street
PO Box 305
Soufriere, Saint Lucia
Tel: 758 – 459 – 5500
Fax: 758-459-7799
Email: smma@candw.lc
<http://www.smma.org.lc/index.html>

13. Contact: If there are other individuals in relevant government agencies or non-governmental organizations that may be able to assist us with information on fisheries, please provide their names and contact details below

Marie-Louise Felix
Email: mlfelix@wwf.sr
Previous work in St. Lucia w/ turtle watch program

Williana Joseph
Ministry of Agriculture, Forestry
and Fisheries
Pointe Seraphine, Castries
Tel: (758) 468-4135/4139
Fax: (758) 452-3853
E-mail: deptfish@slumaffe.org

Organizations:
St. Lucia National Trust
Pigeon Island
St. Lucia, West Indies
Ph: 758-452-5005
<http://www.slunatrust.org/index.php?id=17>

St. Lucia Naturalists' Society

14. Documents: What documents (journal articles, grey literature, agency reports) describe fisheries and bycatch in this area?

Literature Cited

Anon. Unknown. National Biodiversity Strategy & Action Plan of St. Lucia. Government of St. Lucia.
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Appendix 2: Summary table of fleet characteristics and fishing effort for longlines, gillnets and trawls, the gear types of major concern for bycatch.

	Gear type →	Longline	Gillnet	Trawl*
	Artisanal/Industrial/Undetermined	artisanal	artisanal	
Fleet Characteristics	Target species	Deep slope, offshore pelagics	Coastal pelagics	
	Vessel type	Canoes or pirogues		
	Vessel Classification (country specific)			
	Vessel length (m)	5-9 m		
	Number of vessels			
	Engine type	Outboard engines		
	Avg Horsepower	40-115		
	Gear Used (materials)	Non mechanized longlines,	Fillet nets – gillnet used as encircling net	
	How gear deployed (demersal/pelagic, set/drift)	Bottom set (palang), and vertical longlines	Encircling, not set or drift	
Effort	Crew Size			
	Where gear deployed/ area fished	deep slope species caught at 200 m or deeper	Mainly west coast, sheltered bays	
	Fishing seasons (months)	Deep slopes from mid-Aug to mid-Nov; pelagics Nov/Dec-June		
	Avg. trip duration (days)			
	Total days fished per month/year			
	Number of fishing trips per year			
	Gear/vessel effort (gear & trip information)	Hook size/type: Number of hooks: Main line length:	Net mesh size(s): Twine gauge: Weight²: Mesh length: Net length & width: Net Depth:	Net mesh size(s): Foot rope length & diameter: Head rope length (min/max/avg) Horizontal opening width (m): Tow (trawl) or haul (seine) speed:

Number of sets/hauls/soaks/tows per trip			
Number of hours per set/soak/tow			
= Total number of hours towed per trip			

* Trawls are not used in St. Lucia.

Appendix 3: Fish landing sites and selected fishing grounds for Saint Lucia. From Anon 2001.

KEY

SITE #	LOCATION
1	Gros Islet
2	Castries
3	Anse la Raye
4	Canaries
5	Soufriere
6	Choiseul
7	River Doree
8	Labone
9	Vieux fort
10	Savannes Bay
11	Micoud
12	Praslin
13	Dennery

-----	200 meter depth contour
.	Offshore banks

