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WWF, Gland, Switzerland.

Front cover photo: Jürgen Freund / WWF-Canon
Green turtle (*Chelonia mydas*) swimming with remora fish on its back, Indo-Pacific Ocean
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<td>FAO Committee of Fisheries</td>
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<td>CPPS</td>
<td>Permanent Commission for the South Pacific</td>
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<td>FAO</td>
<td>United Nations’ Food and Agriculture Organization</td>
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<td>GIS</td>
<td>Geographic Information System</td>
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<td>GPF</td>
<td>Global Programme Framework</td>
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<td>IAC</td>
<td>Inter-American Sea Turtle Convention</td>
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<td>ICCAT</td>
<td>International Commission of Atlantic Tuna</td>
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<td>IOSEA</td>
<td>Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia</td>
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<td>IUCN</td>
<td>International Union for the Conservation of Nature</td>
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<td>MPA</td>
<td>Marine Protected Area</td>
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<td>MTSG</td>
<td>IUCN’s Marine Turtle Specialist Group</td>
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<td>NGOs</td>
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<td>RFMOs</td>
<td>Regional fisheries management organizations</td>
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<td>SPAW</td>
<td>Specially Protected Areas and Wildlife</td>
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<td>SSC</td>
<td>Species Survival Commission</td>
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<td>WAMER</td>
<td>WWF’s West African Marine Ecoregion</td>
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<td>WWF</td>
<td>World Wide Fund for Nature</td>
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Green sea turtle (*Chelonia mydas*) head shot. Researchers can use the scales on the sides of turtles’ heads to identify individuals.
All seven marine turtle species face continuing and ever-increasing threats to their very existence. They are the living representatives of an order of reptiles that has existed on Earth and travelled our seas for the last 100 million years. Until recently, their survival success appeared secure as marine turtles – which live in most of the world’s seas – crawled ashore to nest in abundance on tropical, subtropical and some temperate beaches around the globe.

Unfortunately, a combination of factors has severely reduced marine turtle populations: hunting for meat, shell and eggs; habitat destruction; fisheries bycatch; international trade; pollution; boat strikes; introduced predators; and disease. As a result of this reduction, as well as other threats such as climate change, ecosystems like coral reefs and seagrass beds are suffering. The balance between marine animals and plant species has changed, with subsequent impacts on commercial fisheries. The possibility of creating livelihoods through ecotourism to observe marine turtles is rapidly disappearing in many coastal communities throughout the tropics. The cultural importance attached to marine turtles will undoubtedly fade, with a negative impact on the identity of many human societies.

Marine turtles are a shared resource, since they migrate and disperse through many nations. Only a concerted global effort will ensure the survival of these ancient mariners and the continued existence of the ecological, cultural and economic benefits they provide.

Marine turtle conservation represents a formidable challenge. Geographically, a single marine turtle will pass through numerous habitats on land and at sea, cross the borders of several countries and swim through international waters during the course of its life. The time scale is equally overwhelming, as marine turtles take decades to reach maturity before returning to the beach or region where they were born in order to lay eggs that ensure continuation of the species. This long and complex life journey guarantees that marine turtles face numerous threats during their life cycle.

Compounding all of these is the threat of climate change, which has the potential to have profound impacts on marine turtle distribution, foraging behaviour and reproductive fitness – and ultimately the very future survival of these species. Underlying these threats are issues of human subsistence, cultural and traditional practices, human population increases, and lack of information and/or capacity to carry out the interventions required. To conserve marine turtles effectively requires conservation efforts that are carried out across entire oceans, transcend national boundaries, involve a wide range of decision-makers, understand and address the reasons driving the threats, and are sustained for decades, at a minimum. Thus, this WWF Global Marine Turtle Strategy is guided by a long-term vision and recognition of the need for persistence in conservation efforts to enable the recovery of these species, even beyond 2020.
Because of their ecological characteristics, as well as diverse cultural values, marine turtles are charismatic ambassadors for broader marine and coastal conservation issues. WWF recognizes that marine turtles routinely act as flagship species that inspire conservation actions not only for their own protection, but also for the range of lesser-known but equally important species in the marine environment.

WWF has been working on marine turtle conservation for over 50 years, since its inception in 1961. As threats to these fascinating and unique species increase, the next 10 years of conservation work will be critical to ensure they continue to inhabit our seas and visit our beaches.

This strategy outlines WWF’s priorities for marine turtle conservation, taking into account their conservation status and needs, and WWF’s role and niche. From this global strategy, operational strategies and action plans will be developed at regional, multi-country and national levels. Through implementation of this ambitious strategy, WWF commits to taking on these formidable challenges. WWF will contribute to:

- stopping the decline of marine turtles globally;
- promoting the recovery of the species through our work;
- securing habitats and conditions – both ecological and social – in which turtles, and the people that depend upon them, can survive into the future.

Dr Carlos Drews
Director Global Species Programme
September 12, 2012
Mating green turtles (*Chelonia mydas*) in the reef shallows, Malaysia. Males have a longer and thicker tail than females, as well as a single mating claw on the trailing edge of their fore flippers.
1. EXECUTIVE SUMMARY

VISION (50+ YEARS)
Marine turtle populations worldwide are protected and restored to levels where they are no longer at risk of extinction, and fulfil their ecological, cultural and socio-economic roles.

GOAL
By 2020, marine turtles are recovering or stabilizing in selected representative populations. This strategy includes site-based interventions, both on nesting beaches and in-water habitats (such as inter-nesting areas, foraging grounds and migratory routes), as well as broader regional and international policy interventions. It focuses specifically on five of the seven marine turtle species, but broad international, intergovernmental policy interventions intended for these five species will most likely also benefit the other two species (Kemp’s ridley and flatback turtles).

“I think it’s important to protect marine turtles because according to their development stage they occupy different ocean habitats which are impacted by our actions (nesting beach degradation, pollution, fisheries interactions). But I mainly think that we need to protect them, because we need to respect living creatures and use natural resources understanding that these are shared.”

Nestor Ubieta, Argentinean Fisher

Tubbataha Reefs National Marine Park, Philippines: a ranger skillfully handles a green turtle
1. Executive summary

WWF’S GLOBAL MARINE TURTLE STRATEGIES

- Continue to identify critical habitats in each ocean basin, and protect/effectively manage those that are known.
- Develop alternatives to over-exploitation, and reduce illegal trade.
- Reduce bycatch in artisanal and industrial fisheries.
- Support policies to reduce marine turtle mortality and improve implementation of existing agreements and international instruments.
- Implement strategies to reduce the impact of climate change.
- Highlight and strengthen the value of living turtles to the livelihoods of local communities, and to decision-makers.

OBJECTIVES

The species objectives are:

<table>
<thead>
<tr>
<th>Species Objective</th>
<th>Description</th>
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<tr>
<td>Objective 1.</td>
<td>By 2020, leatherback populations are stabilized or increasing at 10 globally important nesting beaches with long-term monitoring schemes, and globally important threats to leatherbacks in priority sites are measurably reduced.</td>
</tr>
<tr>
<td>Objective 2.</td>
<td>By 2020, hawksbill populations are stabilized or increasing at 10 globally important nesting beaches with long-term monitoring schemes, and globally important threats to hawksbills in priority sites are measurably reduced.</td>
</tr>
<tr>
<td>Objective 3.</td>
<td>By 2020, loggerhead populations are stabilized or increasing at six globally important nesting beaches with long-term monitoring schemes, and globally important threats to loggerheads in priority sites are measurably reduced.</td>
</tr>
<tr>
<td>Objective 4.</td>
<td>By 2020, green turtle populations are stabilized or increasing at six globally important nesting beaches with long-term monitoring schemes, and globally important threats to green turtles in priority sites are measurably reduced.</td>
</tr>
<tr>
<td>Objective 5.</td>
<td>By 2020, olive ridley turtle populations are stabilized or increasing at three globally important nesting beaches with long-term monitoring schemes, and globally important threats to olive ridleys in priority sites are measurably reduced.</td>
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In addition, global overarching objectives address actions that need to be taken or coordinated at regional or global levels across the species-specific work. These include:

<table>
<thead>
<tr>
<th>Overarching Objective</th>
<th>Description</th>
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<td>Objective 6.</td>
<td>By 2020, adaptation measures are implemented to significantly reduce the threats from climate change to marine turtles at key nesting and foraging sites.</td>
</tr>
<tr>
<td>Objective 7.</td>
<td>By 2020, the development and application of policies and legislation that benefit marine turtle conservation are facilitated in all range states covered by WWF target sites and through at least five international marine turtle (or other relevant) instruments.</td>
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<tr>
<td>Objective 8.</td>
<td>By 2020, the livelihoods of people living in six coastal areas are improved through economic development activities linked to marine turtle conservation.</td>
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1. Population trends (as measured by proxies such as number of nesting females, number of nests, etc.) increasing or, at least, not declining.
2. Priority sites in these objectives are those nesting beaches, inter-nesting areas, foraging grounds and migratory routes identified as most significant for each species according to available literature.
3. A subset of the sites defined in the species objectives; those particularly likely to be affected by climate change.
Moluccan fisher in his dugout canoe hunts an Olive Ridley turtle with a spear, Indonesia. WWF-Indonesia collaborates with communities and governments to build local capacity and provide alternatives, such as the Turtle Conservation and Education Center in Bali.
2. INTRODUCTION

Marine turtles have been on Earth for well over 100 million years, surviving the demise of the dinosaurs. Sadly, however, the world’s seven marine turtle species have declined dramatically in the last several hundred years – due to human exploitation, bycatch in fisheries, loss of habitat and marine pollution.

Recognition of their plight in the late 20th century resulted in the enactment of global and regional agreements, backed up by national legislation and regulations, to protect them. Despite these developments, however, marine turtles remain vulnerable to extinction from a suite of ongoing and emerging threats. Although these threats vary according to species and region, with some populations faring better than others, it is likely that marine turtles will remain conservation-dependent in the modern world.

Leatherbacks, greens, hawksbills, olive ridleys and loggerheads have circumglobal ranges, while the flatback is limited to the waters of Australia and New Guinea, and the Kemp’s ridley almost entirely to the Gulf of Mexico and eastern United States. Conserving marine turtles is challenging because these long-lived animals are constrained by their biology and must survive for decades to even start reproducing. Most marine turtle species do not mature for 20-30 years and then remain reproductively active for at least a decade. They also migrate thousands of kilometres in their lifetimes, routinely across ocean basins and through the territorial waters of numerous countries, as well as high seas. Thus, strategies for conservation and management must address threats on the land, in coastal waters and on the high seas.

In recent decades, national and international programmes to conserve marine turtles have helped prevent extinction at the population level. With long-term protection, some populations have rebounded, but numerous populations are either mere remnants of their former size or are gone altogether. Ensuring the survival of individuals is not enough – the ultimate goal should be to avert both biological and ecological extinction, and to enable recovery. Recovered populations must be large enough to fulfil their ecological roles in marine and coastal habitats and resilient enough to survive unexpected events. Their value for diverse human societies should be recognized.

WWF firmly believes that marine turtle conservation must be relevant to local communities who regularly live and interact with marine turtles and their habitats. Because of this, involving and building the capacity of local partners and communities is seen as a critical part of WWF’s field and advocacy programmes.

2.1. BIOLOGY AND LIFE HISTORY OF MARINE TURTLES

Marine turtles spend their lives at sea, but females must leave the ocean and venture ashore to lay their eggs in the warm sands of tropical and subtropical beaches. Adult males and females undertake long-distance migrations between foraging grounds and nesting beaches, and females display natal homing by returning to the same beach or region where they were hatched many years earlier to breed. Depending on the population, the period between a female’s nesting season varies from 1-9 years; males are thought to mate more frequently. During a single nesting season, females typically lay 2-6 clutches, each containing 65 to 180 eggs, at intervals of about two weeks. Incubation generally lasts eight weeks depending on the temperature, with warmer nests producing female hatchlings and cooler nests producing males, but incubation temperatures above...
35°C or below 25°C are fatal. Emerging generally at night or on a rainy day when the sand is cool, the hatchlings scurry to the ocean. Once beyond the waves, each small turtle is guided to the open ocean by its internal magnetic compass and other innate behaviours.

Young turtles drift in oceanic gyres and globally important current systems for some years. Growth rates are relatively slow, with most species requiring 20-30 years to mature. The older juveniles of most species move into a different habitat for further growth and eventually into the foraging habitats of adults. Marine turtles often display fidelity to feeding sites as well as nesting beaches.

Hatchlings are preyed upon by a host of terrestrial and marine species, and natural mortality is high. For survivors of these early years, natural predation diminishes over time but remains an active threat. As a result of high mortality in development years, a very large population of hatchlings, juveniles and sub-adults is needed to sustain an adult breeding population. Marine turtles are valuable to marine and coastal ecosystems as both predators and prey, and also have globally important effects on nutrient cycling and the structure of these systems – particularly when turtle populations are robust. During some life-cycle states and in some areas, marine turtles of different species compete for the same resources, but generally differences in food habits and foraging areas minimize competition.

Ultimately, the success of any species is based on its ability to reproduce and survive. Changes in marine turtle populations are most commonly assessed by nesting beach surveys. Nesting populations fluctuate naturally from year to year, so regular surveys are needed for at least 10 years or more. Although this assessment method focuses on only one part of the population, it provides a dependable measure of whether reproduction is stable, increasing or declining over time. With decades between hatching and breeding, however, the visible results of both overexploitation and protection/removal of overexploitation are slow. Foraging ground assessments are useful but complicated by the presence of turtles of various ages from different populations whose futures remain unknown.

### Did you know...?

- It takes several decades before marine turtles can reproduce.
- The sex of turtle hatchlings depends on the temperature of the sand where the eggs are laid.
- Turtles occupy several levels in the food chain, from vegetarian grazers to carnivorous predators.
- Marine turtles disperse and migrate over vast areas: one turtle was recorded to travel 10,000 kilometres in a year.
- Because they go through different life-cycle stages, marine turtles need a wide range of habitats – including beaches, tropical, subtropical and temperate coastal waters, seagrass meadows, coral reefs and open ocean.
- Turtles breathe air, and many drown as a result of getting caught in fishing nets or on hooks.
- Marine turtles move within the territorial waters of many countries as well as the high seas.
- Some of the oldest evidence of interactions between humans and marine turtles comes from the Arabian Peninsula and dates back to about 5000 BC.
Leatherbacks

Leatherbacks (*Dermochelys coriacea*) are the world’s largest living reptile with a carapace length of 132-178cm and a maximum weight of 900kg. They are the only survivors of an evolutionary line of soft-shelled turtles that diverged from the other species of marine turtles 100-150 million years ago. Leatherbacks are the most migratory of all marine turtle species, making both trans-Atlantic and trans-Pacific crossings. The world’s largest nesting leatherback populations are found on either side of the Atlantic. Although nesting has increased and the discovery of the large nesting assemblage in Central Africa has significantly increased the total number of Atlantic leatherbacks, they remain conservation dependent. In contrast to the Atlantic, leatherback populations in the Pacific and Indian oceans have declined precipitously as a result of intense egg collection and fisheries bycatch and may now number only a few thousand females nesting each year. Without urgent conservation, these leatherbacks face regional extinction.

Hawksbills

The hawksbill (*Eretmochelys imbricata*) is a medium-sized turtle weighing 43-75kg and with a carapace measuring up to 90cm. It is found throughout the world’s tropical oceans and, to a lesser extent, in subtropical waters. Numerous accounts document the rich historic abundance of hawksbills in the Atlantic, Indian and Pacific oceans. For thousands of years the hawksbill has been hunted for tortoiseshell, the beautiful scutes (plates) of its carapace which, in legend and history, has been a valued and prized commodity. Although a worldwide ban on tortoiseshell currently prohibits international trade, hawksbills remain at risk from clandestine and local exploitation, and illegal trade.

Loggerheads

Found around the world in temperate, subtropical and occasionally tropical waters, the loggerhead (*Caretta caretta*) is easily distinguished from other species of marine turtles by its massive head and large powerful jaws. It has a shell length of 85-124cm and weighs 80-200kg. Loggerheads occupy numerous near-shore and off-shore habitats during their lives and thus are exposed to multiple human-made threats. Loggerheads are less likely to be hunted deliberately than other marine turtles: their meat is considered less palatable than that of the green turtle, and the shell is less prized than that of the hawksbill. However, loggerheads come in contact with numerous off-shore and near-shore fisheries. Reducing bycatch in artisanal and industrial fisheries is a critical need everywhere but especially in the Pacific, where the fewest loggerheads are found, and in the Mediterranean, where levels of capture are very high.

Green turtles

The green turtle (*Chelonia mydas*) is the largest of the hard-shelled marine turtles and as a herbivore is unique among these species. Its shell can measure up to 122cm and it can weigh 65-204kg. The term “green” refers to the colour of its fat, not its carapace. Green turtles are distributed throughout the tropics and subtropics, and, to a lesser extent, in temperate waters. They are highly migratory and undertake complex movements during their lifetimes, including periodic migrations from breeding to foraging grounds. Green turtles do not cross ocean basins frequently.

In the Eastern Pacific a unique subspecies referred to as black turtles nests from Mexico to Ecuador. Black turtles are not sufficiently distinct genetically from green turtles to be considered a separate species, but they are noticeably different in appearance and behaviour.
Historically, green turtles were exceedingly abundant but today, by comparison, many populations are depleted. Hunted extensively for meat, oil, shell, leather, curios and calipee (for soup), the green turtle has been described as the world’s most commercially valuable reptile. Overall, nesting populations are now doing relatively well in the Western and Central Atlantic and parts of the Pacific. However, green turtles face serious threats in Southeast Asia, the Eastern Indian Ocean and the Mediterranean.

**Olive ridleys**

The olive ridley (*Lepidochelys olivacea*) is the world’s most abundant marine turtle. The olive ridley is also the smallest of the marine turtle species, weighing 35-50kg and with a carapace measuring 55-76cm long; Pacific ridleys are somewhat smaller than their Atlantic counterparts. The relatively broad carapace is high domed, and they are olive or greyish green in colour. Many olive ridleys are solitary nesters, but on a few beaches around the world, females emerge from the ocean en masse to lay their eggs in spectacular natural events known as arribadas (Spanish for “the arrival”). The olive ridley will always be vulnerable because such a large proportion of its reproductive effort is concentrated in only a few locations. Human-caused or natural disturbances to nesting beaches and inter-nesting areas, therefore, have huge repercussions on the entire population.

**Kemp’s ridleys**

The Kemp’s ridley (*Lepidochelys kempii*) is a relatively small turtle weighing up to 45kg and with a carapace up to 76cm. It is restricted to the Gulf of Mexico and the US Atlantic seaboard. Kemp’s ridleys are light olive-green. The Kemp’s ridley is the most geographically restricted of the marine turtles and is one of only two species not distributed around the world. This species has undergone a globally important population decline in the last 60 years – from more than 40,000 females nesting en masse in an arribada in 1947, to an all-time low of only a few hundred females nesting solitarily in the mid-1980s. Until recently the Kemp’s ridley was the world’s most endangered marine turtle, but four decades of conservation efforts have averted their extinction, making this tale of survival one of the world’s great marine conservation success stories.

**Flatbacks**

The flatback (*Natator depressus*) breeds and nests only in Australia, and is the second of the two marine turtle species with a restricted geographic range. It is a medium-sized turtle, weighing up to 90kg, and has a flattened, olive-grey carapace measuring up to 99cm. Covered in a thinly keratinized skin rather than hard keratinized scutes, the carapace bleeds when scratched. Flatbacks are largely restricted to Australia’s continental waters where they forage in shallow soft-bottom habitats for soft corals, jellyfish, and other soft-bodied prey such as sea cucumbers and sea pens. The restricted range means that the flatback is extremely vulnerable to habitat loss – especially of breeding sites. Increasing coastal development, particularly when associated with oil and gas facilities, is likely to heighten this pressure. Feral pig predation is suppressing nesting success by up to 90 per cent in some rookeries, but the globally important threat appears to be incidental catch by the numerous fishing vessels operating in waters favoured by these turtles.
2.2. CONSERVATION STATUS OF MARINE TURTLES

Marine turtles are an “ancient part of the world’s biodiversity, represented in fossil records as early as 100 million years ago”. Early records of marine turtles in the 18th and 19th centuries indicate that the abundance of some species was in the millions. Yet many populations are now in rapid decline through a wide range of added human-induced impacts, and in urgent need of comprehensive and integrated conservation efforts.

New technology and sophisticated research tools have significantly expanded the knowledge about marine turtles in recent years, providing a better understanding of their biology, the threats they face, and the opportunities for recovery and conservation. This strengthens the ability of scientists and managers to make informed decisions. Following the discovery of genetic markers which can identify nesting populations, biologists have since been able to evaluate the origins of turtles away from their natal beaches. Satellite transmitters have enabled scientists to track turtles in real time, revealing migration routes and patterns as well as foraging areas. Sophisticated data recorders elucidate details of diving behaviour, physiology and environmental conditions, such as nest temperature and moisture; while electronic databases of sightings of marked individuals are powerful tools which allow enormous amounts of data to be organized, stored, accessed, shared and analysed.

Many flipper-tagging programmes, initiated several decades ago, continue to yield valuable data, including records of individual greens, hawksbills, loggerheads and olive ridleys nesting for 25 years or more. Current research is yielding important information about turtles and their environmental needs, just as climate change is altering environmental parameters.

Yet, despite significant advances, large gaps in knowledge remain, including reliable estimates of survival and mortality at different life-history stages, as well as age to maturity.

Table 1 shows a summary of the protection afforded to marine turtles through two global environmental treaties, and their conservation status as determined by IUCN (International Union for the Conservation of Nature).

<table>
<thead>
<tr>
<th>Marine turtle species</th>
<th>IUCN Red List (2012)</th>
<th>CITES listing</th>
<th>CMS listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leatherback turtle</td>
<td>Critically Endangered</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
</tr>
<tr>
<td>(Dermochelys coriacea)</td>
<td></td>
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</tr>
<tr>
<td>Hawksbill turtle</td>
<td>Critically Endangered</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
</tr>
<tr>
<td>(Eretmochelys imbricata)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kemp’s ridley turtle</td>
<td>Critically Endangered</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
</tr>
<tr>
<td>(Lepidochelys kempii)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Green turtle</td>
<td>Endangered</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
</tr>
<tr>
<td>(Chelonia mydas)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Loggerhead turtle</td>
<td>Endangered</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
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<tr>
<td>(Caretta caretta)</td>
<td></td>
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<tr>
<td>Olive ridley turtle</td>
<td>Vulnerable</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
</tr>
<tr>
<td>(Lepidochelys olivacea)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Flatback turtle</td>
<td>Data Deficient</td>
<td>Appendix I</td>
<td>Appendix 1 &amp; 2</td>
</tr>
<tr>
<td>(Natator depressus)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
The IUCN Marine Turtle Specialist Group (MTSG) is moving away from species assessments on a global scale towards regional management units to assess population status. WWF will support and contribute to these efforts, as well as revisit our priorities as new information arises. Nonetheless, this strategy includes the latest data available from published literature to define priority sites under each species objective.

2.3. MAIN THREATS TO MARINE TURTLES

2.3.1. Bycatch in fisheries

Bycatch in fisheries – in coastal waters, oceanic waters and on the high seas – is the greatest threat faced by most marine turtle populations today. According to the Sea Turtle Conservancy it’s estimated that the fishing industry contributes to the death of hundreds of thousands of sea turtles each year. Turtles are unintentionally captured, injured or killed in many kinds of gear, including purse-seines, trawls, pots and traps, gillnets, dredges and longlines, not to mention abandoned gear (ghost nets and lines). In addition, fisheries have a broader, but less obvious, indirect effect on turtles by altering marine food webs, targeting turtle prey, such as whelks and crabs, and destroying bottom habitat.

Trawls, longlines and gill nets are three widely used types of gear that are especially lethal for marine turtles. Wide-mouthed trawl nets are known to catch all marine turtle species in coastal waters and may drown as many as 150,000 turtles each year. Longliners fishing for tuna, sharks and swordfish set more than 1.4 billion hooks each year and capture more than 200,000 loggerheads and 50,000 leatherbacks annually, with tens of thousands of turtles subsequently dying from their injuries. Better and mandatory bycatch data collection and mandatory changes for longline fishing operations need to be adopted by the world’s potentially powerful regional fisheries management organizations (RFMOs). Practical solutions and bycatch mitigation measures need to be sensitive to artisanal fisherfolk’s subsistence needs and should capitalize on their local knowledge. The voluntary adoption of turtle-friendly fishing practices by artisanal longliners in the Eastern Pacific, promoted by WWF and partners, is leading the way to a massive transformation of attitudes towards bycatch.

Until recently, efforts to reduce bycatch have largely focused on industrial fisheries and organized artisanal fleets such as those in the Eastern Tropical Pacific. Bycatch in small, local artisanal fisheries was not considered a globally important problem. However, these fisheries are in fact voluminous and recently have been acknowledged to cause large impacts. Global estimates of the numbers of marine turtles killed as a result of artisanal fisheries are not available. Gillnets used extensively in artisanal and industrial fisheries cause high incidental capture of turtles. More information is needed on the impacts of coastal gillnets of Chilean and Peruvian fisheries, for example.

Identification of “hot spots” or areas of special interest where turtles and fisheries overlap, such as in the productive areas where ocean currents converge, is critically important for long-term turtle conservation and spatial-temporal measures, and responsible ecosystem-based management of national and fisheries resources. Some fisheries are especially lethal because they operate in the vicinity of important nesting areas for marine turtles.

5. CITES Appendix I includes species threatened with extinction. Trade in specimens of these species is permitted only in exceptional circumstances.
6. CMS Appendix 1 lists migratory species that have been categorized as being in danger of extinction throughout all or a significant proportion of their range, while Appendix 2 includes species that have an unfavourable conservation status or would benefit significantly from international cooperation organized by tailored agreement.
beaches or feeding grounds (e.g. the gillnet fishery in Trinidad and Tobago, the shrimp trawlers off the shores of Orissa, India, in Mozambique or along the Eastern Pacific coasts of Mexico, Costa Rica and Nicaragua). Areas of particular global concern for longline bycatch are the Central and Southern Pacific, South Atlantic and Mediterranean. As fisheries and economic and political situations change, new issues keep coming to light: driftnets used to catch swordfish and other species have been identified as a globally important threat to turtles in the Southwest Atlantic and the waters off Brazil.

Research to make fisheries more selective and reduce turtle bycatch has been under way since the early 1980s, when net inserts known as turtle excluder devices (TEDs) were first developed to enable turtles to escape from trawl nets. TEDs are used in many areas of the world today, but not as widely or effectively as needed, even where there is adequate legislation requiring their use. The growing interest in reducing the incidental capture of protected species in longline fisheries has resulted in gear modifications and new handling techniques for captured turtles. Modifications to gillnets in Trinidad, and along Mexico's Pacific coast, have dramatically decreased the rates of marine turtle capture in small-scale fisheries. Time and area closures are also effective in reducing bycatch in gillnets and other fisheries.

2.3.2. Direct exploitation

Tens of thousands of marine turtles are killed deliberately each year in the developing world as a source of protein and cash revenue. Poverty and cultural mores, coupled with weak governance and enforcement, contribute to this problem. Overexploitation is particularly serious in parts of Asia and the Western Pacific, where thousands of green turtles are killed for food each year. Added to this, many hawksbills are taken illegally in Southeast Asia to supply ornaments and curios for foreign buyers. Along the Eastern Pacific coast of Mexico, despite complete protection, green (“black”) turtles, and particularly loggerheads in the north and olive ridleys in the south, are still very much at risk from continuing exploitation. A voluminous, legal, commercial take of green and hawksbill turtles by the Wayuu community persists along the Caribbean shores of Colombia. Over 10,000 green turtles are taken each year along the Miskito coast of Nicaragua, about three times more than is considered sustainable. In the Pacific islands, increases in exploitation accompanied the decline in traditional taboos on turtle hunting, which has significantly reduced turtle populations. In West Africa eggs are collected and marine turtles are killed for food, medicine and use in traditional vodun (voodoo) ceremonies.

Egg collection on many turtle nesting beaches is also a very serious threat, especially in Southeast Asia where a culture of legal egg collection has led to the removal of tens of thousands of eggs. This has contributed to the local extinction of leatherbacks in Malaysia and the dramatic decline of nesting green turtles in Sarawak and Sabah, Borne – though the practice has been brought under control in recent years, with an evident recuperation of populations. Within the last few decades extensive egg collection and the killing of adults in Indonesia has resulted in huge population declines throughout the archipelago. Despite protective legislation, many eggs produced each year in Central America are still collected for subsistence or commercial use. Hunting and egg collection continue throughout the Indian Ocean, and in many cases the take is more than populations can sustain.

CITES has prohibited all international commercial trade in marine turtles since they were listed on Appendix I of the Convention in 1981 – unless the products are from certified farms. CITES has been a powerful tool in reducing international turtle commerce, but its restrictions have no legal effect on domestic trade. Some countries have imposed more

8. The egg collection scheme in Ostional, Costa Rica is legal and does not seem to represent a threat to the olive ridley population.
strict domestic measures than they had previously, in response to the conservation status of the species, and the heightened awareness produced by the Appendix I listings.

The participation of local communities and other stakeholders, and the need to incorporate conservation in socio-economic development and vice versa, are both critical to the success of marine turtle conservation, because exploitation of turtles is often driven by a lack of economic alternatives. Programmes which can provide economic alternatives to exploitation, and well-being to communities, demonstrate that turtles are ultimately more valuable alive than dead. Education and outreach are crucial to changing attitudes of both resource users and conservationists and to instilling a conservation ethic that will be sustained over time.

**WWF and sustainable use of marine turtles**

WWF opposes a resumption of international commercial trade in marine turtles, or their products, until it can be shown that: the species in question has sufficiently recovered to sustain trade; governments have sufficient capacity and commitment to enable enforcement and implementation of national and international laws; other populations will not be put at risk; any trade will primarily benefit local communities and enhance species conservation; and such trade will not negatively affect the recovery of populations to fulfil their ecological roles in their ecosystem, and maintain their demographic health and genetic diversity.

In some instances, small-scale subsistence use of marine turtles may still allow for a recovery of the species. However, in the light of the endangered status of marine turtles and the history of overexploitation, it is not precautionary to promote consumptive uses of these species at this point.

### 2.3.3. Habitat threats and climate change

Marine turtles are dependent on coastal and marine habitats, many of which are under threat from development and associated activities. Beach developments, piers and artificial lighting all have negative impacts on nesting in many areas, with beachfront constructions, such as seawalls, preventing viable nesting. Offshore runoff, pollution, fishing and commercial (as well as recreational) boat traffic imperil seagrass beds and corals in near-shore habitats. Oil and gas exploration and extraction are also globally important threats to marine turtles in many areas. Nest predation by feral animals (e.g. dogs and pigs) is a significant threat to many populations of turtles. Pressure on turtle habitats will increase as the planet’s human population approaches the projected 9 billion by the mid-21st century.

Climate change will present additional challenges to both humanity and turtles. In the last 150 years, the average temperature of the Earth has risen 0.76 °C and is expected to continue to increase at an ever-faster rate. Climate change is affecting the physical and chemical characteristics of the oceans – as ice cover recedes, waters expand and the acidity of the oceans increases. Fresh water from melting glaciers, changes in salinity and isotope ratio, and changing ocean chemistry will affect marine habitats and biodiversity. These changes will result in shifts in range and abundance for algae, plankton, fish and other species. It is impossible to predict how changes in globally important ocean currents, key habitats, and prey abundance and distribution will affect marine turtle distribution, foraging behaviour and reproductive fitness, but the potential for profound negative impact is significant.
Seagrass beds will be adversely affected by increased temperatures, sea-level rise, sedimentation, disturbance from storms and flooding. Coral reefs are at risk from increased temperatures combined with reduced calcification associated with acidification. The expansion of warmer ocean waters and more severe storms will erode nesting beaches while more frequent seasons of extreme rainfall or drought will alter incubation conditions and reduce hatchling production. Warmer temperatures will produce a preponderance of female offspring or may reach a level fatal to embryos altogether. Warmer waters are expected to increase episodic marine events, such as toxic red tides, and facilitate the spread of disease.

WWF has taken a proactive role in Latin America and the Caribbean in addressing the effects of climate change on marine turtles. We have convened a group of leading scientists to evaluate impacts, and design and test adaptation measures, including the reduction of non-climate stressors, to enhance the resilience of populations and the habitats on which they depend. Turtles are good flagships for climate change too, which facilitates the promotion of coastal adaptation with relatively simple, hands-on measures. An adaptation toolkit for marine turtle habitats for global distribution is already benefiting turtles and coastal communities alike.

**Map 1.** Projected increase in surface air temperature by 2020 at hawksbill nesting beaches in the Caribbean under an A2 greenhouse gas emissions scenario. Changes in temperature range from +0.04 to +3 °C and beaches were ranked from lowest to high temperature change so that 25% of beaches fell into each category.
Bycatch interactions are presumed to be one of the most significant causes of leatherback population declines.
3. DEVELOPING WWF’S GLOBAL MARINE TURTLE STRATEGY 2.0 (2012-2020)

WWF is one of the world’s largest conservation organizations. However, even with the help of our numerous partners, we have only finite resources and must focus our efforts. Since our establishment in 1961, we have used a variety of methods and strategies to prioritize our activities. In an effort to further focus our efforts and resources in coming years, we have launched a Global Programme Framework (GPF) to act as an outline strategy for our future work.

3.1. WWF MISSION, GOALS AND PRIORITIES

WWF’s mission is to stop the degradation of the planet’s natural environment and to build a future in which humans live in harmony with nature by:

• conserving the world’s biological diversity
• ensuring that the use of renewable natural resources is sustainable
• promoting the reduction of pollution and wasteful consumption.

This mission underpins our conservation work and is the foundation for the GPF. In order to realise its mission, WWF focuses its global conservation programme around metagoals and goals that address issues of biodiversity conservation and footprint (the impacts of people on the environment). To deliver on these metagoals and goals, WWF directs the greater part of its efforts in conserving priority ecoregions and species, and in addressing a set of priority global drivers that have an impact on biodiversity, as well as working to reduce the human footprint on Earth to sustainable levels.

Biodiversity metagoal

By 2050, the integrity of the most outstanding natural places on Earth is conserved, contributing to a more secure and sustainable future for all.

• 2020 biodiversity goal – places: Biodiversity is protected and well managed in the world’s most outstanding natural places.
• 2020 biodiversity goal – species: Populations of the most ecologically, economically and culturally important species are restored and thriving in the wild.

Footprint metagoal

By 2050, humanity’s global footprint stays within the Earth’s capacity to sustain life and the natural resources of our planet are shared equitably.

• 2020 footprint goal: By 2020, humanity’s global footprint falls below its 2000 level and continues its downward trend.
3.2. MARINE TURTLES AND THE GLOBAL PROGRAMME FRAMEWORK

WWF has been working actively across the globe on marine turtle conservation since its founding in 1961, but particularly intensively since the inception of our Species Programme in 2001. Over this period, WWF programmes and offices around the world have made significant progress in marine turtle conservation.

A considerable number of projects have specifically focused on marine turtle conservation over the years. In addition, a large number of other projects throughout the WWF network indirectly supported marine turtle conservation through broader conservation interventions. Marine turtles fall under the 2020 biodiversity goal of the GPF. They are among the list of “flagship” species, which are of special importance ecologically, economically and culturally, on which WWF focuses its primary efforts in order to achieve wider conservation outcomes.

Marine turtles are arguably the most “global” of WWF’s species priorities, present in almost all the marine and coastal priority places listed in the GPF, and in all of the world’s oceans. They cross thousands of kilometres of ocean and rely on a wide range of very different coastal and marine ecosystems at different times during their life cycle. As a consequence, marine turtle conservation requires a comprehensive approach to protection of many important marine habitats, and to mitigation of key threats within those habitats. Marine turtles are thus a symbol of key global threats to coastal and marine biodiversity and the importance of a marine conservation agenda in most parts of the world.

3.3. ACHIEVEMENTS OF WWF’S MARINE TURTLE WORK

The breadth and variety of WWF programmes reflect an evolving conservation scenario – emerging from an initial focus on interventions on nesting beaches aimed at protecting female turtles and their eggs. While these programmes remain an essential part of the overall strategy, WWF’s efforts have expanded to: reduce bycatch in fisheries; support and advocate international and intergovernmental policies to provide meaningful protection; generate community participation in conservation; and address climate change. Research and management, capacity building, public education and outreach have been key components of this work. WWF also assisted in the creation of what was to become the IUCN/SSC MTSG. Partnerships are vital to WWF’s conservation practice, and we value our relationships with governments, industry and other non-governmental organizations (NGOs).
Recent highlights and achievements of WWF’s marine turtle conservation work around the globe

- The reports *Linked Futures* and *Money Talks* illustrate how marine turtle conservation programmes can, and do, reduce poverty and deliver a sustainable environment for future generations. The reports show that non-consumptive tourism use of marine turtles generates greater gross revenue than consumptive use of marine turtles for shell, meat, eggs and other products. Both reports are frequently used to demonstrate that investments in marine turtle conservation are also investments in people and their livelihoods.

- TRAFFIC has published numerous reports assessing the trade of marine turtle products in Central America, Colombia, Dominican Republic, France, Japan, the Lesser Antilles, the Northern Caribbean, Southeast Asia, Venezuela and Vietnam. These reports are frequently used as reference and lobbying tools to strengthen the enforcement of trade regulations. All of the reports are available for download at www.traffic.org.

- In the largest regional project to transform a fishery in the world, at least 680 fishing vessels in 40 ports and 9 countries in the Eastern Pacific have voluntarily converted to turtle-friendly circle hooks and are using tools and techniques to handle marine turtles onboard and release them properly.

- The annual WWF International Smart Gear Competition encourages innovative ideas for environmentally friendly fishing gear. The competition is searching for new designs for fishing devices that reduce bycatch — real-world fishing solutions that allow fishers to fish “smarter” by better targeting their intended catch, while safeguarding marine turtles and other marine life often caught unintentionally.

- In 2007, a WWF survey discovered several marine turtle nesting sites on the beaches of Senegal, prompting calls from conservationists to improve protection of the endangered species. Thanks to the combined efforts of government bodies, local communities and the WWF West African Marine Ecoregion (WAMER), the Joal Fadiouth Marine Protected Area (MPA) was established. This is now the first fully operationalized community-based MPA in Senegal.

- In 2009, following TRAFFIC trade surveys and “quiet” advocacy, along with the work of other environmental partners, the Dominican Republic government cracked down on illegal hawksbill turtle shell trade. Open sales in sites visited fell by 99%. Follow-on work includes support to the government to develop a marine turtle management plan and law enforcement monitoring with a DNA test to identify geographic origins of turtle-shell products.

- More than 20 leatherbacks were fitted with a satellite transmitter to analyse their migratory route as part of a multi-partner Trans-Atlantic Leatherback Conservation Initiative. The partnership includes WWF-Latin America & the Caribbean, WWF-Gabon, and WWF-Guianas. By analysing and disseminating that information, it will recommend measures to reduce bycatch mortality in Atlantic fisheries.

9. TRAFFIC, the wildlife trade monitoring network, works in partnership with WWF and IUCN to ensure that trade in wild plants and animals is not a threat to the conservation of nature.
TRAFFIC ran a successful two-year project to combat illegal and unsustainable trade in Mexico, which reached enforcement officers in more than 80% of Mexico’s seaports, airports and border crossings.

The WWF Adaptation to Climate Change for Marine Turtles (ACT) project was started to address how marine turtles are affected by climate change and the best ways to reduce their vulnerability to changing environmental conditions. This includes activities that would help turtle populations to be more resistant (able to withstand change) and resilient (able to recover after change) to climate change effects. The adaptation toolkit is available to be used by WWF offices and partners involved in climate change adaptation work all over the world. To date it has been successfully used in the Wider Caribbean, for example.

WWF and other environmental NGOs developed a compendium of best practice in conservation and management measures to promote the development of a common approach and adoption of best practice across the tuna RFMOs for bycatch species, including marine turtles.
3.4. OPPORTUNITIES FOR A WWF GLOBAL MARINE TURTLE STRATEGY

Given the geographic range of marine turtles, cross-country cooperation and coordination are vital for their conservation. With offices in more than 40 countries, WWF is well positioned as a global organization to address regional and global conservation challenges. WWF’s current project portfolio includes dozens of marine turtle conservation projects, and many conservation programmes across the WWF network include marine turtle components – including in many of the GPF priority places and ecoregion programmes. Several of the large-scale, multi-country Global Initiatives include significant marine turtle components, such as the Coral Triangle, Coastal East Africa and Smart Fishing Global Initiatives. This breadth of interventions, at multiple scales, reinforces the need to plan WWF’s work on marine turtles at a global scale.

The Global Marine Turtle Strategy is informed first and foremost by the conservation needs of the species in a comprehensive manner. The strategy takes into account external action plans and priorities such as:

- IUCN/SSC MTSG: A Global Strategy for the Conservation of Marine Turtles
- US Fish & Wildlife Service: Marine Turtle Conservation Act
- SWOT: The World’s Most (and Least) Threatened Sea Turtles.

The strategy includes seeking synergies with priority place conservation programmes and WWF Global Initiatives as pertinent, in addition to independent action where it is most needed. Consequently, the implementation of the strategy and identification of specific target nesting beaches and foraging sites will happen through a combination of updated national and regional marine turtle action plans (as appropriate), Global Initiatives and work in priority places.

Building on many years of marine turtle conservation, this Global Marine Turtle Strategy aims to provide guidance both internally and externally by focusing on conservation priorities (species-specific and place-specific), and optimizing opportunities for WWF interventions. In addition, the strategy aims to assist WWF donors to make more strategic and informed decisions for resource allocation; facilitate more effective fundraising with external donors and partners; and help deliver more meaningful conservation outcomes for these flagship species.

3.5. THE SOCIAL DIMENSION

This Global Marine Turtle Strategy is aligned with WWF’s four main social policies:

- **Indigenous peoples**: we respect indigenous and traditional peoples’ human and development rights and recognizes the importance of conserving their cultures.
- **Poverty and conservation**: we find equitable solutions for people and the environment, making special efforts to enable local people to play a key part in crafting solutions for sustainable development.
- **Human rights**: we respect human rights and promote them within the scope of our conservation initiatives.
- **Gender**: we are committed to equity and integrating a gender perspective in our policies, programmes and projects, as well as in our own institutional structure.
Hawksbill turtle (*Eretmochelys imbricata*) laying its eggs in nest, Seychelles. Hawksbill turtles lay the largest clutches, which in some cases may contain over 200 eggs!
4. SELECTING PRIORITY SPECIES AND POPULATIONS FOR WWF

4.1. WHAT WWF BRINGS TO MARINE TURTLE CONSERVATION

As a global conservation organization, with active marine turtle conservation projects and a history of supporting partner organizations in over 100 countries around the world, WWF is well positioned to provide a coordinated multinational effort for marine turtle conservation from local to global.

WWF has experience at the local level, and at national, regional and international policy levels. A key strength lies in our ability to use field and policy work at all levels to inform and strengthen each other. This allows the development of an integrated, comprehensive approach needed for these highly migratory species.

**WWF’s strengths include:**

- A trusted and well respected network of offices and expertise across the globe, in many priority turtle nesting and feeding areas;
- Identification of priority areas, key threats and associated recovery objectives for marine turtle conservation across species’ ranges;
- Ability to work effectively at all levels, from local communities to international advocacy;
- Credible and well-respected advocacy based on field experiences;
- Multinational staff, with cultural sensitivity skills and local knowledge;
- Experience and credibility at facilitating multi-stakeholder, integrated planning and implementation processes;
- Ability to mobilize large communications and advocacy campaigns;
- Ability and experience in working collaboratively with local and national governments;
- Ability to work constructively with industry partners;
- A unique approach and alliance for bycatch mitigation measures with partners;
- Close relationship with TRAFFIC on wildlife trade.
4. Selecting priority species and populations for WWF

4.2. CRITERIA FOR PRIORITIZING SPECIES, POPULATIONS AND HABITATS

The approach taken in this strategy is to conserve representative populations across the range of a particular species. This requires different actions to an approach that seeks to conserve only one representation of a species (for example, ensuring the continuation of the species by maintaining the largest nesting population). Representative population conservation implies consideration of genetic diversity and the species’ ecological role across its entire range and lifecycle.

In determining priorities, the following considerations are used sequentially:

1. The risk of extinction of the species or population concerned, based on its current conservation status.

2. The biological importance of a population or area – e.g. a large nesting population either historically or currently, an important foraging ground, a genetically important nesting population, the viability of the population, migration routes, etc.

3. Globally important identified threats – those that are most important for a population, species or area, of which the following were determined to be the most serious affecting marine turtles across their ranges:
   - Bycatch
   - Trade
   - Consumption (local)
   - Habitat destruction or degradation (nesting, foraging)
   - Climate change.

Sea turtles education scheme, French Guiana. Collaborating with communities to learn about the importance and benefits of turtle conservation is a top priority for WWF.
4. Selecting priority species and populations for WWF

4. Synergies with other WWF programme priorities.
5. Consideration of WWF’s niche in relation to that of other partners.
6. Use of marine turtles as flagship species for broader conservation outcomes.

This prioritization process has led to no specific work on Kemp’s ridley or flatback turtles being planned in the near future. In the case of Kemp’s ridley turtles, despite their Critically Endangered status, this species is not currently considered a priority for WWF work largely because of their restricted geographic range and the success of current interventions by other stakeholders; specifically the governments of Mexico and the USA, and other NGO partners. In the case of flatback turtles, their Data Deficient status and restricted geographic range for both nesting and foraging were key factors. As with Kemp’s ridleys, there was no clear added benefit identified for site-specific WWF action on flatback turtles. However, in both cases, it is anticipated that broader national or international and intergovernmental policy interventions intended for other species will benefit these species indirectly. This strategy is a working document, and may be reviewed if the situation of either of these species changes.

4.3. OVERARCHING GLOBAL PRIORITY WORK

The issues in this section reflect global or concerted WWF efforts that are needed over and above species-specific and site-specific or regional actions.

Climate change
Climate change adaptation is necessary for all priority populations. Adaptation requires more development, attention and resources in most projects. Climate change adaptation for marine turtles will include what WWF can implement, facilitate or advocate in order to mitigate the adverse effects of climate change on turtles and their habitats. The particular suite of activities developed for any one population will depend on the particular vulnerabilities of that population.

International trade
Reducing or halting illegal international trade requires diligence and coordination at all levels – site level, national policy and legislation, local efforts to stop direct and indirect takes, law enforcement, and international policy and regulations – such as under CITES. For this reason, WWF works with TRAFFIC on international trade issues, in order to link local enforcement with domestic and international regulations.

Bycatch mitigation
Consistency and coordination are required to achieve global reductions in bycatch. Because turtles are migratory, crossing national boundaries and the high seas, it is essential that bycatch mitigation efforts are coordinated across their migratory ranges. This requires a coordinated effort towards reducing the impacts of bycatch both at the local and national level, as well as by RFMOs and their constituent member states. Small-scale fisheries are also responsible for high numbers of turtle bycatch and further assessments are required to establish to what extent these fisheries are depleting current populations.
Livelihoods

WWF firmly believes that marine turtle conservation must be relevant to the local communities which regularly live and interact with marine turtles. The livelihoods of coastal communities where marine turtles nest are linked to these animals and their habitats. Turtles can be a catalytic force to drive local human sustainable development. However, historically there has not been a focus in conservation projects of systematically identifying community needs and benefits, and then addressing and monitoring the social changes required. This objective aims to provide such a consistent approach, particularly linked to WWF’s policy on poverty and conservation.

Additionally, there is a need, at local, national and international levels, to explore sustainable mechanisms of funding for priority marine turtle conservation sites and issues. While this is not the subject of a specific objective in this strategy, potential and probable means of supporting long-term conservation and monitoring at priority sites will be explored and implemented, where possible.

4.4. WWF’S MARINE TURTLE CONSERVATION PRIORITIES AT A GLANCE

Atlantic Ocean

- Support policies across the Atlantic to reduce marine turtle mortality.
- Address climate change at nesting sites through adaptation measures.
- Expand protection for leatherbacks (Gabon), hawksbills (Equatorial Guinea), loggerheads (Cape Verde) and green turtles in West and Central Africa.
- Maximize olive ridley hatchling production in Suriname and French Guiana.
- Support efforts to compile international bycatch data and build capacity for fishers to mitigate marine turtle bycatch.
- Reduce bycatch in artisanal and pelagic industrial fisheries, with an emphasis on foraging hot spots of loggerheads in the Mediterranean and leatherbacks in West and Central Africa, as well as in the off-shore waters of key nesting sites in the Wider Caribbean.
- Support the establishment of marine protected areas in critical marine turtle habitats.
- Reduce hawksbill harvest and illegal trade in the Wider Caribbean.

Pacific Ocean

- Support policies across the Pacific to reduce marine turtle mortality with a focus on leatherback and loggerhead distribution areas.
- Address climate change adaptation at nesting sites.
- Maximize leatherback and loggerhead hatchling production on priority beaches, as well as hawksbills in the Eastern Pacific.
- Protect leatherbacks, hawksbills, black turtles and loggerheads in the Eastern Pacific.
- Reduce bycatch by promoting mitigation measures including alternative fishing gear that is effective for each specific condition and fishery, such as circle hooks and associated best-practice management in longline fisheries, and support efforts to compile bycatch data and build capacity for fishers and fisheries authorities.
• Reduce bycatch in artisanal and pelagic industrial fisheries, with an emphasis on inter-nesting and foraging hot spots in the Eastern and North Central Pacific.

• Support international efforts to protect coral reef habitat and maximize coral resiliency.

• Support the establishment of marine protected areas in critical habitats.

• Reduce clandestine trade in hawksbills and green turtles in the Western Pacific.

• Reduce excessive egg harvests throughout the region.

• Reduce nest predation in key affected habitats throughout the region.

**Indian Ocean**

• Support policies across the Indian Ocean to reduce marine turtle mortality.

• Address climate change adaptation at nesting sites.

• Maximize leatherback hatchling production on priority beaches, including the North East Indian Ocean, South Africa, Mozambique and Sri Lanka.

• Establish long-term protection for India’s olive ridley arribada populations, their beaches and near-shore habitats.

• Support efforts to compile international bycatch data and build fishers’ capacity.

• Reduce bycatch in artisanal and high seas industrial fisheries, including regional foraging hot spots in Sri Lanka and India.

• Support the establishment of marine protected areas in critical habitats.

• Support international efforts to protect coral reef habitat and maximize resiliency.

• Reduce clandestine hawksbill and green trade in Western Indonesia and Southeast Asia, including excessive egg harvesting.
Turtle conservation and community well-being can most effectively be sustained in the long term if local communities are actively involved in the efforts.
This Global Marine Turtle Strategy is the framework which will guide the implementation of the WWF marine turtle work. Detailed activities and indicators will be included in implementing programmes such as updated national and regional marine turtle action plans, Global Initiatives and priority places work plans.

5.1. VISION
Marine turtle populations worldwide are protected and restored to levels where they are no longer at risk of extinction, and fulfil their ecological, cultural and socio-economic roles.

5.2. GOAL AND STRATEGIES
By 2020, marine turtles are recovering or stabilizing in selected representative populations.

The five species strategies used to achieve the above-mentioned goal are consistent across all WWF species action plans or strategies.

<table>
<thead>
<tr>
<th>Species strategies</th>
<th>Marine turtle strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure the necessary extent, integrity and functioning of critical habitats</td>
<td>Continue to identify critical habitats in each ocean basin, and protect/effectively manage those that are known</td>
</tr>
<tr>
<td>(quantity, quality, management)</td>
<td>Develop alternatives to over-exploitation, and reduce illegal trade</td>
</tr>
<tr>
<td>Generate mutually beneficial incentives for the coexistence of people and species</td>
<td>Reduce bycatch in artisanal and industrial fisheries</td>
</tr>
<tr>
<td>Create awareness and influence adverse attitudes and behaviour</td>
<td>Support policies to reduce marine turtle mortality and improve implementation of existing agreements and international instruments</td>
</tr>
<tr>
<td>Further relevant policy and legislation in all sectors and at all levels</td>
<td>Support policies to reduce marine turtle mortality and improve implementation of existing agreements and international instruments</td>
</tr>
<tr>
<td>Ensure adequate protection and biological management of populations, including guidance for local people involved with turtle conservation, and engagement with influence marketplace actors</td>
<td>Highlight and strengthen the value of living turtles to the livelihoods of local communities, and to decision-makers</td>
</tr>
<tr>
<td>Implement strategies to reduce the impact of climate change and to help marine turtles adapt to its effects</td>
<td></td>
</tr>
</tbody>
</table>
5.3. Objectives per Species

5.3.1. Leatherback turtles

Objective 1

Objective 1.1

By 2020, leatherback populations are stabilized or increasing at 10 globally important nesting beaches with long-term monitoring schemes, and globally important threats to leatherbacks in priority sites are measurably reduced.

Target priority sites:

- **Western Pacific**: Coral Triangle (Indonesia), Coral Sea
- **Eastern Pacific**: Mexico, Central America, Colombia, Ecuador, Peru and Chile
- **Western Atlantic**: Wider Caribbean (Trinidad & Tobago, the Guianas)
- **Eastern Atlantic**: Gabon

Objective 1.2

By 2020, 10 globally important nesting beaches for leatherbacks are protected from inappropriate coastal development and well managed.

Target priority sites:

- **Northern Indian Ocean**: India (Andaman and Nicobar islands), Sri Lanka
- **Western Pacific**: Coral Triangle (Indonesia, Papua New Guinea, Solomon Islands)
- **Eastern Pacific**: Mexico, Nicaragua, Costa Rica
- **Western Indian Ocean**: Southern Africa (east coast of South Africa, southern Mozambique)
- **Western Atlantic**: Wider Caribbean (Trinidad & Tobago and the Guianas, the Colombia-Central America coast)
- **Eastern Atlantic**: Gabon

Objective 1.3

By 2020, the bycatch of leatherbacks in selected fisheries (longlines and gillnets) is reduced by 50%.

Target priority sites:

- **Western Pacific**: Coral Triangle (Indonesia, Papua New Guinea, Solomon Islands)
- **Eastern Pacific**: Mexico, Nicaragua, Costa Rica
- **Western Atlantic**: Wider Caribbean (Trinidad & Tobago and the Guianas, the Colombia-Central America coast)
- **Eastern Atlantic**: Gabon

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11. Baseline bycatch data is lacking in many regions of the world. In these cases, we will be able to infer the bycatch reduction by indicating the percentage of vessels transformed to turtle-friendly gear and practices. Where baselines exist we will be able to measure the extent of the reduction through direct data from on-board observers.

12. In the case of MPAs: effectively managed as per agreed components of the WWF/World Bank MPA Management Effectiveness guidelines.
5. Global Marine Turtle Strategy: Vision, Goal and Objectives

5.3.2. Hawksbill turtles

<table>
<thead>
<tr>
<th>Species</th>
<th>Objective 1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawksbill turtles</td>
<td>By 2020, hawksbill populations are stabilized or increasing at 10 globally important nesting beaches with long-term monitoring schemes, and globally important threats to hawksbills in priority sites are measurably reduced.</td>
</tr>
</tbody>
</table>

**Objective 2.1**

By 2020, bycatch of hawksbill turtles in selected fisheries (coastal gillnets and purse seines) is reduced by 30%.

**Target priority sites:**
- **Western Pacific:** Coral Triangle, South Pacific Islands (Fiji)
- **Eastern Pacific:** Central America (El Salvador and Nicaragua), Ecuador
- **Western Atlantic:** Wider Caribbean (Trinidad and Tobago, the Guianas)
- **Eastern Atlantic:** West Africa (Cape Verde, Guinea), Central Africa (Congo, Sao Tomé and Principe)

**Objective 2.2**

By 2020, 10 globally important sites (nesting and feeding) are protected and well managed.

**Target priority sites:**
- **Western Pacific:** Coral Triangle (Indonesia, Malaysia, Philippines)
- **Eastern Pacific:** Central America, Ecuador
- **Western Atlantic:** Wider Caribbean
- **Eastern Atlantic:** West Africa (Cape Verde, Guinea), Central Africa (Congo, Sao Tomé and Principe)
- **Western Indian Ocean:** Coastal East Africa, Madagascar and other island states
- **Northern Indian Ocean:** India (Lakshadweep archipelago), United Arab Emirates, Oman, Iran

**Objective 2.3**

By 2020, the local consumption of hawksbill turtle eggs/meat in 10 priority sites is reduced to less than 10% of current levels.

**Target priority sites:**
- **Western Pacific:** Southeast Asia and the Coral Triangle, South Pacific Islands (Fiji)
- **Western Indian Ocean:** Coastal East Africa, Madagascar
- **Western Atlantic:** Wider Caribbean
- **Eastern Atlantic:** West Africa (Cape Verde, Guinea)

**Objective 2.4**

By 2020, the availability of hawksbill products (shell, eggs) is reduced by 50% in eight domestic or international market sites.

**Target priority sites:**
- **Western Pacific:** East Asia, Southeast Asia and the Coral Triangle
- **Western Indian Ocean:** Coastal East Africa, Madagascar
- **Eastern Indian Ocean:** Western Indonesian islands (Java and Sumatra)
- **Western Atlantic:** Wider Caribbean (Cuba, Dominican Republic)
5. Global Marine Turtle Strategy: Vision, Goal and Objectives

### Objective 3.1
By 2020, bycatch of loggerheads in selected fisheries (longlines and gillnets) is reduced by 50%, especially in foraging hotspots.

**Target priority sites:**
- **Western Pacific:** Great Barrier Reef
- **Eastern Pacific:** Mexico (Baja California), Peru, Chile
- **Eastern Atlantic:** the Mediterranean, West Africa

### Objective 3.2
By 2020, six globally important nesting sites for loggerhead turtles are protected from inappropriate coastal development and well managed.

**Target priority sites:**
- **Northern Indian Ocean:** Oman
- **Western Pacific:** Great Barrier Reef, New Caledonia
- **Eastern Atlantic:** the Mediterranean, West Africa (Cape Verde)
- **Western Indian Ocean:** Coastal East Africa (Mozambique), Madagascar

### Objective 3.3
By 2020, the local consumption of loggerhead turtles and eggs is reduced to less than 50% of current levels.

**Target priority sites:**
- **Eastern Atlantic:** the Mediterranean (Egypt)
5.3.4. Green turtles

**Species Objective 4.** By 2020, green turtle populations are stabilized or increasing at six globally important nesting beaches with long-term monitoring schemes, and globally important threats to green turtles in priority sites are measurably reduced.

**Objective 4.1** By 2020, bycatch of green turtles in selected fisheries (trawl, gillnets and longlines) is reduced by 30%.

**Target priority sites:**
- **Western Pacific:** Southeast Asia, Coral Triangle, South Pacific Islands (Fiji, Vanuatu)
- **Eastern Atlantic:** the Mediterranean, West Africa
- **Eastern Pacific:** Mexico, Central America, Colombia, Ecuador
- **Western Indian Ocean:** Coastal East Africa

**Objective 4.2** By 2020, at least eight globally important habitats (nesting and feeding) of green turtles are protected and well managed.

**Target priority sites:**
- **Northern Indian Ocean:** Oman, Saudi Arabia
- **Western Pacific:** Coral Triangle (Malaysia, Indonesia, Philippines), South Pacific Islands (Fiji), Australasia
- **Eastern Pacific:** Mexico, Ecuador (Galapagos Islands)
- **Western Indian Ocean:** Coastal East Africa (Comoros and Seychelles island states)
- **Western Atlantic:** the Guianas (Suriname)
- **Eastern Atlantic:** the Mediterranean (Turkey), West Africa (Guinea-Bissau, Guinea), Central Africa (Equatorial Guinea)

**Objective 4.3** By 2020, the local consumption of green turtle eggs and meat is reduced to less than 50% of current levels.

**Target priority sites:**
- **Western Pacific:** Coral Triangle (Malaysia, Indonesia, Philippines, Papua New Guinea)
- **Eastern Atlantic:** West Africa (Senegal, Guinea-Bissau, Guinea)

**Objective 4.4** By 2020, the availability of green turtle meat, shell, eggs and other products is reduced by 50% in eight domestic or international market sites.

**Target priority sites:**
- **Western Pacific:** East Asia, Southeast Asia, Coral Triangle
- **Western Indian Ocean:** Coastal East Africa, Madagascar and other island states
- **Eastern Indian Ocean:** Western Indonesian islands (Java, Sumatra, Bali)
5. Global Marine Turtle Strategy: Vision, Goal and Objectives

5.3.5. Olive Ridley turtles

**Species Objective 5.** By 2020, olive ridley turtle populations are stabilized or increasing at three globally important nesting beaches with long-term monitoring schemes, and globally important threats to olive ridleys in priority sites are measurably reduced.

**Objective 5.1** Target priority sites:
- **Northern Indian Ocean:** India (Orissa)
- **Western Indian Ocean:** Coastal East Africa, Madagascar and other island states
- **Western Atlantic:** Suriname, French Guiana
- **Eastern Atlantic:** West Africa, Central Africa
- **Western Pacific:** Coral Triangle, South Pacific Islands (Fiji), Arafura Sea
- **Eastern Pacific:** Mexico, Central America, Ecuador, Peru

By 2020, bycatch of olive ridley turtles in selected fisheries is reduced by 30%.

**Objective 5.2** Target priority sites:
- **Northern Indian Ocean:** Pakistan, India (Orissa)
- **Western Atlantic:** Suriname, French Guiana
- **Eastern Atlantic:** West Africa, Gabon

By 2020, at least three globally important nesting sites for olive ridley turtles are protected and well managed.
### 5.4. Objectives for overarching issues

Some threats and their solutions require global or concerted WWF efforts rather than local species-specific actions. Therefore this strategy includes several overarching objectives that do not specify priority sites – priority sites mentioned here correspond to those identified under the species-specific objectives.

<table>
<thead>
<tr>
<th>Overarching Objective</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>By 2020, adaptation measures are implemented to significantly reduce the threats from climate change to marine turtles at priority sites.</td>
</tr>
<tr>
<td>6.2</td>
<td>By 2020, climatic baselines of nesting habitats (sea level, sand temperature and water tables) are established at all nesting sites with WWF interventions.</td>
</tr>
<tr>
<td>6.3</td>
<td>By 2020, marine turtle nesting habitats are undergoing adaptation efforts in 10 priority sites, and adaptation is part of national legislation, strategies and/or local marine turtle conservation and management plans.</td>
</tr>
<tr>
<td>7.1</td>
<td>By 2020, vulnerability assessments have been carried out for all foraging areas of priority species with WWF interventions.</td>
</tr>
<tr>
<td>7.2</td>
<td>By 2020, the development and application of policies and legislation that benefit marine turtle conservation has been facilitated in all range states covered by our target sites and through at least five international marine turtle (or other relevant) instruments.</td>
</tr>
<tr>
<td>7.3</td>
<td>By 2020, marine turtle habitats are covered under climate change adaptation resolutions/guidelines in at least five international or intergovernmental instruments or agreements.</td>
</tr>
<tr>
<td>7.4</td>
<td>By 2020, harvest and trade control measures for marine turtles are effectively enforced and demand is reduced in a minimum of six countries in Asia and the Pacific, three in Latin America and the Caribbean, and one in Africa.</td>
</tr>
<tr>
<td>7.5</td>
<td>By 2020, at least three RFMOs managing fishing activities that interact with marine turtles have implemented management actions (through a management plan) that significantly reduce marine turtle bycatch to a level that does not harm the status of the population.</td>
</tr>
<tr>
<td>8.1</td>
<td>By 2020, the livelihoods of people living in coastal areas in six countries are improved through economic development activities linked to marine turtle conservation.</td>
</tr>
<tr>
<td>8.2</td>
<td>By 2020, social well-being has improved measurably through marine turtle conservation at six priority sites: two in Asia and the Pacific, two in Latin America and the Caribbean, and two in Africa.</td>
</tr>
</tbody>
</table>

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13. E.g. IAC, SPAW, CPPS, IOSEA, UNFCCC.
14. From TRAFFIC programme objectives on marine turtles.
15. This RFMO work targets longline fisheries, and complements the development of more localized or regional solutions to bycatch in artisanal and industrial shrimp trawls and gillnets under species-specific objectives.
16. In Asia and the Pacific, Latin America and the Caribbean, and Africa.
A Green turtle (*Chelonia mydas*), accidentally caught in fishing gear is liberated. WWF contributes to building local capacity on marine turtle release methods.
6. STRATEGY IMPLEMENTATION

6.1. MONITORING AND EVALUATION

For marine turtles, baseline data of both population trends and levels of threat is lacking or insufficient. In these cases, percentage reductions in threats will need to be measured against best possible estimates.

The IUCN Red List (www.iucn.org/redlist) is the reference to measure if populations are stabilizing or recovering. However, IUCN assessments of conservation status based on population trends are normally conducted over three generations of data, and by 2020 this long-term data may not be available for many of the populations in the selected priority sites. Proxy measures of population – such as number of nests per season, annual hatching production, annual egg production and annual egg harvest – converted into the number of nesting females, as well as the regional management units assessment developed by the MTSG, will need to be the basis for assessing progress against the species objectives for 2020.

An outline of the monitoring needs and indicators is presented in Tables 2 and 3. Detailed monitoring plans for site-specific work will be developed within WWF Global Initiatives, priority place conservation plans, and national and regional action plans as relevant.

<table>
<thead>
<tr>
<th>Audience</th>
<th>Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>WWF project teams</td>
<td>Progress, adaptive management based on evaluation, conservation tools and know-how, sharing of lessons learnt</td>
</tr>
<tr>
<td>Project partners</td>
<td>Progress, adaptation based on evaluation, roll-out of conservation tools and know-how</td>
</tr>
<tr>
<td>Donors</td>
<td>Progress, significant outcomes and impact on the target species</td>
</tr>
<tr>
<td>Local communities, range state decision-makers</td>
<td>Participation, credits, significant outcomes and impact, lessons/ knowledge, general information on projects’ progress</td>
</tr>
<tr>
<td>WWF network, general public</td>
<td>Significant outcomes and impact, lessons/ knowledge, general information on projects’ progress</td>
</tr>
</tbody>
</table>

Table 2. Audiences and their monitoring and information needs
**Table 3. Indicators and sources of information/data to monitor progress**

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Methods/sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal</strong></td>
<td></td>
</tr>
<tr>
<td>Marine turtle population trends</td>
<td>IUCN Red List assessments – regional and global – and papers addressing conservation priorities</td>
</tr>
<tr>
<td>Population estimates based on beach surveys</td>
<td>Beach nesting surveys extrapolated to population numbers</td>
</tr>
<tr>
<td><strong>Species objectives</strong></td>
<td></td>
</tr>
<tr>
<td>Nesting number trends</td>
<td>Beach surveys at selected sites and information available through scientific papers</td>
</tr>
<tr>
<td># of critical habitats protected</td>
<td>GIS, inventories of critical sites as well as the SWOT database for nesting sites</td>
</tr>
<tr>
<td># of critical habitats effectively managed</td>
<td>WWF/World Bank Management Effectiveness scorecard</td>
</tr>
<tr>
<td># of states with appropriate policies, legislation</td>
<td>Inventory of relevant states with existing legislation compiled</td>
</tr>
<tr>
<td>% reduction in sightings of illegal take/trade</td>
<td>Seizures at sea; volume of product in market surveys; number and volume of seizures in CITES database</td>
</tr>
<tr>
<td>% reduction in bycatch of turtles in selected fisheries</td>
<td>Observer records (from the WWF observer programmes, ICCAT and other RFMOs, and the MTSG global database)</td>
</tr>
<tr>
<td>% uptake of circle hooks in relevant fisheries</td>
<td>Project records of hook exchanges, indicating number of vessels</td>
</tr>
<tr>
<td>% of vessels applying best practice handling techniques</td>
<td>Observer records (from the WWF observer programmes), fleet/skimmer commitments</td>
</tr>
<tr>
<td><strong>Overarching objectives</strong></td>
<td></td>
</tr>
<tr>
<td># of relevant marine turtle international agreements with climate change adaptation measures</td>
<td>Agreement convention texts, and relevant resolutions and decisions</td>
</tr>
<tr>
<td># of benefits/scale of benefits derived from non-consumptive use of marine turtles by local communities</td>
<td>Participatory appraisals to identify benefits relevant to each community (e.g. marine park entrance fees, employment and training options, development opportunities as identified by community, improvement in well-being)</td>
</tr>
<tr>
<td>Perceived importance of marine turtle conservation to local people</td>
<td>Questionnaires pre- and post-projects, retrospective analyses</td>
</tr>
<tr>
<td># of sites with climate adaptation strategies implemented</td>
<td>Presence of adaptation strategies in local management plans, and associated budgets and actions</td>
</tr>
</tbody>
</table>
6.2. OPERATIONAL PRINCIPLES
The following principles will be adhered to during the implementation of this global strategy:

- Pursue objectives through teamwork with partners and consultation with specialists.
- Create alliances and/or coordinate well with stakeholders.
- Capitalize on and leverage existing strengths and projects of WWF.
- Facilitate coordination within WWF’s Global Marine Turtle Strategy implementation teams in order to produce strong advocacy results.
- Build synergies with and between WWF Global Initiatives and priority place programmes.
- Take the needs of human communities into account.
- Consider marine turtle conservation within the broader context of biodiversity conservation and sustainable development, including the socio-economic goals of critical sites at the local and national levels. Such contexts could include, for example, fishery management, traditional harvest, cultural practices and nutritional needs.
- Apply an ecosystem-based vision to bycatch mitigation measures proposed according to species, size, composition of catches, and the status of populations involved (target and non-target).
- Support capacity building interventions at the local authority and community level.
- Ensure that conservation and management activities on the ground are supported by policies and/or legislation at the national level.
- Develop and institutionalize local partnerships.
- Base conservation on the best available scientific and traditional knowledge, and work with scientists as well as traditional leaders to address issues relating to conservation and sustainable development in general.
- Intervene at all relevant levels, supporting and complementing local, national and international initiatives.
- Contribute to or complement regional and international strategies with project initiatives.
- Track and monitor emerging critical issues, threats and progress made with indicators of success, achievement and performance, in order to update the milestones and outputs of the programme accordingly through a formal review process, and ensure that this strategy is both dynamic and adaptive.
- Establish marine turtle conservation that is economically, socially and ecologically sustainable into the future.
- Empower local ownership and phase out WWF engagement through culturally sensitive and responsible protocols.
- Design interventions to multiply the conservation impact of WWF.
6.3. MULTIPLICATION BY DESIGN

WWF is using multiplication strategies to amplify the conservation impact of all species action plans, including the Global Marine Turtle Strategy, beyond WWF’s own work. We work with authorities at a local level, governments at a national level, international institutions like RFMOs, and conventions at a regional and global level to support policy measures from climate change and trade to fisheries management and habitat protection.

WWF will support the efforts for turtle protection of regional agreements such as the Inter-American Convention for the Protection and Conservation of Sea Turtles, the Indian Ocean South-East Asian Marine Turtle Memorandum of Understanding, the Cartagena Convention and Specially Protected Areas and Wildlife (SPAW) Protocol, RFMOs and other fisheries bodies. We will also continue promoting the protection of these species through international fora such as CITES, the CMS and the Committee on Fisheries (COFI) of the UN Food and Agriculture Organization (FAO), promoting the implementation of FAO guidelines to reduce sea turtle mortality in fishing operations.

WWF works with local partners such as coastal communities and fishers to create local ownership and leadership of turtle conservation efforts. We build capacity to improve the integration of marine turtle conservation efforts with progress in community well-being. We collaborate with fishers to develop alternative fishing gear that reduces the bycatch of marine turtles but maintains the fish catches they need.

WWF is engaging with IUCN’s MTSG, the International Sea Turtle Society and SWOT, as well as marine turtle experts around the world, to receive and provide the best technical input for global marine turtle conservation efforts.

By identifying who our key partners are, we are able to extend the conservation impact on marine turtles well beyond our own efforts. We want to partner with champions that can take ownership of the conservation of marine turtles in priority sites, and to create the capacity they need to both deliver and benefit from conserving these marine flagship species beyond WWF’s intervention.

6.4. MARINE TURTLE CONSERVATION PARTNERS

Wherever possible, WWF will work with stakeholders and partners in marine turtle conservation. These stakeholders include range state governments, management authorities, research and academic institutions, the private sector (e.g. the tourism industry, fishing companies), local communities and fisher folk, national and international NGOs, and intergovernmental organizations, RFMOs and other fisheries bodies. Worldwide, many conservation NGOs invest in marine turtle conservation work. Several of these, such as IUCN’s MTSG, SWOT, Oceanic Society, The Nature Conservancy and Wildlife Conservation Society are partners of WWF. Additionally, WWF works with a wide range of local partners at national and local scales.

In order to ensure sustainability, the Global Marine Turtle Strategy aims to explore ways of building new partnerships, as well as strengthening existing ones. Through a focus on bottom-up participation, capacity strengthening and lesson sharing, governments and local communities will be empowered to make their own informed decisions about protection and management of marine turtles and their critical habitats.

Protected area work will put emphasis on training and management systems that will last longer than the support provided by WWF. Wherever possible, field activities will involve local communities and efforts will be made to help people establish income-generating and livelihood-improving activities and sustainable programmes.

In addition, the WWF Global Marine Turtle Strategy is crafted to stimulate donors and other organizations to complement WWF investments.

6.5. PROGRAMME COORDINATION AND REVIEW

Implementation of this Global Marine Turtle Strategy will be overseen by the WWF International Species Programme. In many ways, the WWF Global Marine Turtle Strategy is one of the most complicated of WWF’s species action plans (along with the Cetaceans action plan) as it involves the largest number of countries, the largest area (since the high seas must be included), and the greatest diversity of threats. The interventions involve leadership and coordination of work in the Western hemisphere, Europe, Africa, Asia and Oceania. WWF national organizations have made marine turtle conservation a high priority for concerted work and new funding and activity: all offices that are working on marine turtles have agreed that international leadership and coordination are critical to the success of this strategy. A dedicated global coordinator has been recruited, and has a critical role to play in project and programme development, fundraising, monitoring and communication.

The species-specific objectives in this version of the strategy are set for 2020. A review of progress and the challenges will be undertaken in 2015, and the objectives for the remainder of this strategy will be modified accordingly, and where relevant.
Turtle hatchling on Juani Island, Tanzania. Depending on the species, it takes turtles 10 to 20 years to reach maturity.


The State of the World’s Sea Turtles (SWOT) website. seaturtlestatus.org/learn/threats (consulted 23/7/12)


Marine turtle strategy in numbers

WWF offices contribute to the Global Marine Turtle Strategy

WWF works on five of the world’s seven marine turtle species

WWF has been helping conserve marine turtles since it began its conservation work 51 years ago

WWF invests over 2 million EUR in marine turtle conservation annually, but needs to increase that amount 3 fold to be able to meet its objectives satisfactorily

 Why we are here

To stop the degradation of the planet’s natural environment and to build a future in which humans live in harmony with nature.

panda.org