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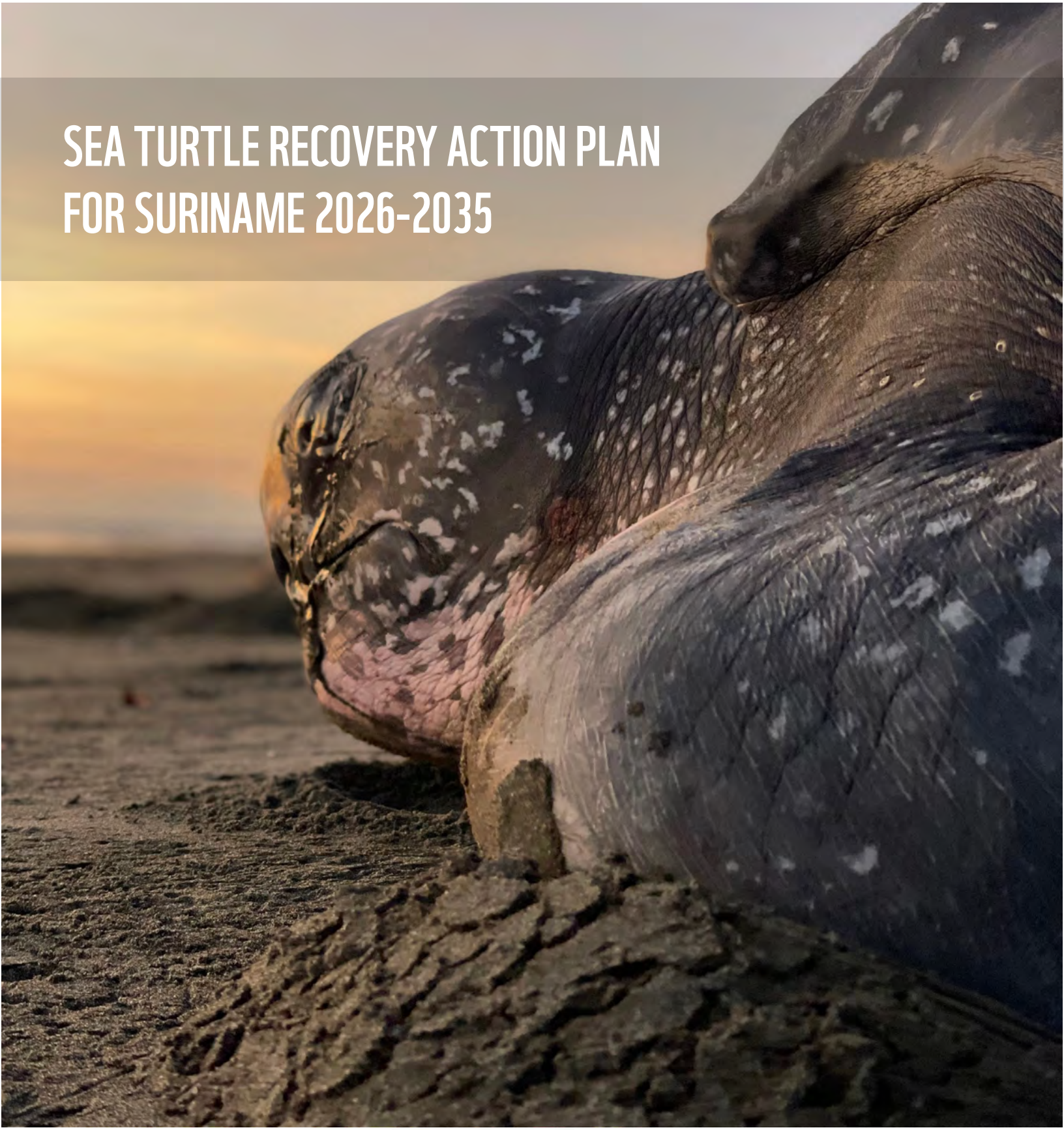
# SEA TURTLE RECOVERY ACTION PLAN FOR SURINAME 2026-2035



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Cover photo:
Leatherback sea turtle heading back to the ocean. ©WIDECAST

Photo opposite preface:
Leatherback nesting on beach. ©Sirachai Arunrugstchai

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Caribbean Environment Programme
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# SEA TURTLE RECOVERY ACTION PLAN FOR SURINAME 2026-2035

Land Policy and Forest Management,
Nature Conservation Division,
Ministry of Oil, Gas and Environment,
and World Wildlife Fund

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# PREFACE

Of the six species of sea turtle that inhabit the Caribbean Sea, all are included on the IUCN Red List of Threatened Species. In addition to centuries of regulated but largely unmonitored exploitation, sea turtles are accidentally captured and often drowned in active and abandoned fishing gear, resulting in death to uncounted tens of thousands annually. Coral reef and seagrass degradation, oil spills, chemical waste, persistent plastic and other marine debris, high density coastal development, and an increase in ocean-based tourism have damaged or eliminated nesting beaches and feeding grounds. Population declines are complicated by the fact that causal factors are not always local. Sea turtles are migratory at all life stages, meaning that what appears as a decline in a local population may be a direct consequence of the activities of people many hundreds of kilometers away. Thus, while local conservation is crucial, action is also called for at the regional level.

To adequately protect migratory sea turtles and achieve the objectives of the UNEP/CEP Regional Programme for Specially Protected Areas and Wildlife, the Strategy for the Development of the Caribbean Environment Programme (1990-1995) called for "the development of specific management plans for economically and ecologically important species", making particular reference to endangered, threatened, or vulnerable species of sea turtle. This is consistent with Article 10 of the Cartagena Convention (1983), which states that Contracting Parties shall "individually or jointly take all appropriate measures to protect ... the habitat of depleted, threatened or endangered species in the Convention area." Article 10 of the 1991 Protocol to the Cartagena Convention concerning Specially Protected Areas and Wildlife (SPAW Protocol) specifies that Parties "carry out recovery, management, planning and other measures to effect the survival of [endangered or threatened] species" and regulate or prohibit activities having "adverse effects on such species or their habitats". Article 11 declares that each Party "shall ensure total protection and recovery to the species of fauna listed in Annex II". All six species of Caribbean-occurring sea turtles were included in Annex II in 1991.

This CEP Technical Report is part of a series of Sea Turtle Recovery Action Plans prepared by the Wider Caribbean Sea Turtle Conservation Network (WIDECAST), a coalition of Caribbean sea turtle specialists, natural resource managers, and community-based organizations. The objectives of the action plan series are to assist Caribbean governments in the discharge of their obligations under the SPAW Protocol, to promote a regional capability to implement scientifically sound sea turtle management and conservation programs, and to encourage a unified approach among range States. Each action plan is developed and peer-reviewed by national stakeholder-led processes, and each summarises the known distribution of sea turtles, discusses major causes of mortality, evaluates the effectiveness of existing conservation laws, and prioritizes implementing measures for population recovery.

WIDECAST was founded in 1981 by Monitor International, in response to a recommendation by the IUCN/CCA Meeting of Non-Governmental Caribbean Organizations on Living Resources Conservation for Sustainable Development in the Wider Caribbean (Santo Domingo, 26-29 August 1981) that a "Wider Caribbean Sea Turtle Recovery Action Plan should be prepared ... consistent with the Action Plan for the Caribbean Environment Programme." WIDECAST is comprised of Country Coordinators in more than 40 Western Atlantic States and territories, and has served the CEP for more than 40 years in support of a shared vision to "protecting the marine environment of the wider Caribbean region for the benefit and enjoyment of present and future generations" and ensuring "co-ordinated and comprehensive development without environmental damage" (Preamble, Cartagena Convention).

# EXECUTIVE SUMMARY

This Sea Turtle Recovery Action Plan (STRAP) for Suriname serves to guide the conservation and management of sea turtles in Suriname over a ten-year period (2026-2035). Four sea turtle species – leatherback (*Dermochelys coriacea*), green (*Chelonia mydas*), olive ridley (*Lepidochelys olivacea*), and hawksbill (*Eretmochelys imbricata*) – nest along Suriname's coastline, primarily along the dynamic beaches of Braamspunt and Galibi. Although more than 14,000 nests were recorded in 2023, sea turtle populations in Suriname have experienced a dramatic overall decline. This is particularly evident among leatherback turtles, whose numbers have dropped by more than 90% over the past two decades. Olive ridley turtles, which also forage in and migrate through Suriname's waters, have suffered a similar reduction, from an estimated 178 nests recorded in 2002 to fewer than 10 in 2023.

Historically, Suriname's green and olive ridley turtles were heavily exploited for export, leading to severe population declines by the mid-20th century. Recognizing this, the Government of Suriname introduced national legal protections beginning in 1954, followed by the establishment of key nesting reserves such as Wia-Wia Nature Reserve in 1961 and Galibi Nature Reserve in 1969.

Since the 1990s, following publication of the nation's first STRAP in 1993, Suriname has made significant conservation advances in collaboration with partners including STINASU, WWF, Stidunal, LBB/Nature Conservation Division (NB), WIDECAST, and other national, regional, and international organizations. Major milestones include the mandatory use of Turtle Excluder Devices (TEDs) in shrimp trawlers and the establishment of a no-fishing zone off Galibi Nature Reserve. Monitoring tools such as Passive Integrated Transponders (PIT) and satellite tagging have strengthened our understanding of turtle movements and population dynamics, while the 2022 Regional Action Plan for Northwest Atlantic Leatherbacks for the Wider Caribbean Region has provided a unifying framework for turtle conservation across the Guianas and Trinidad and Tobago.

Despite conservation advances, significant threats remain and new threats are emerging - primary among them being fisheries interactions and bycatch, which remains the leading cause of at-sea mortality. Climate change and coastal erosion are also major concerns, as rising sea levels, stronger storms, and increasing sand temperatures are reducing suitable nesting habitats, leading to frequent nest loss and potentially skewed hatchling sex ratios. Pollution from marine debris, ghost nets, oil spills, and poor waste management further degrades habitats and endangers sea turtles through entanglement, ingestion, and contamination. Predation and invasive species, including the growing influx of Sargassum seaweed, also threaten both nesting females and hatchlings. Illegal harvesting of turtles and eggs continues due to weak enforcement, insufficient patrol resources, and economic reliance on turtle products, all of which are undermining ongoing conservation efforts. In addition, Suriname's regulatory framework remains fragmented and inadequately enforced. Finally, insufficient coordination among government agencies, NGOs, and community stakeholders has been identified as an issue that hampers effective conservation, while regional cooperation with neighboring French Guiana requires formal strengthening to address shared management challenges.

The STRAP aims to address these conservation constraints, restoring the long-term viability of our sea turtle populations through an inclusive, evidence-based approach that respects indigenous rights and fulfils international obligations. Its overarching goal is to achieve, by 2035, a 10% increase in the number of nests laid per year, restoring leatherback nesting to 2020 levels. Looking ahead, the key objectives of Suriname's sea turtle conservation strategy will focus on strengthening protection and management of both nesting and marine habitats through the creation of a national marine park network and the establishment of a fisheries-free zone at Tijgerbank. Efforts will also aim to expand patrol coverage and enforcement capacity by recruiting additional personnel, incorporating technologies such as drones and enhancing vessel monitoring systems (VMS), engaging local communities in protection activities, Improving hatchery practices, and developing adaptive measures to address the impacts of climate change

To ensure long-term sustainability, this Plan emphasizes sustainable financing mechanisms and greater private-sector involvement. Additionally, promoting research, enhancing regional cooperation, and implementing integrated marine spatial planning will support evidence-based decision-making. Finally, building strong community partnerships is essential to align sea turtle conservation with local livelihoods and encourage lasting stewardship. While Suriname has demonstrated strong national commitment and achieved measurable conservation progress over the last 70 years, sustaining and recovering its sea turtle populations will require closing regulatory gaps, ensuring effective enforcement, addressing at-sea threats, and deepening community and regional collaboration to ensure that Suriname continues to serve an important nesting sanctuaries for sea turtles in the Western Atlantic.

# SAMENVATTING

Dit Zeezichtherstelactieplan (STRAP) voor Suriname dient om de conservatie en het beheer van zeeschildpadden in Suriname te begeleiden gedurende een periode van tien jaar (2026-2035). Vier zeeschildpaddensoorten – de lederschildpad (*Dermochelys coriacea*), de groene zeeschildpad (*Chelonia mydas*), de warana (*Lepidochelys olivacea*) en de karetschildpad (*Eretmochelys imbricata*) – nestelen langs de Surinaamse kustlijn, voornamelijk op de dynamische stranden van Braamspunt en Galibi. Hoewel er in 2023 meer dan 14.000 nesten werden geregistreerd, hebben de populaties zeeschildpadden in Suriname een dramatische algemene achteruitgang ervaren. Dit is vooral duidelijk bij de lederschildpadden, waarvan het aantal de afgelopen twee decennia met meer dan 90% is gedaald. De warana's, die ook in de Surinaamse wateren foerageren en erdoorheen migreren, hebben een soortgelijke afname ondergaan: van naar schatting 178 geregistreerde nesten in 2002 naar minder dan 10 in 2023.

Historisch gezien werden de Surinaamse groene zeeschildpadden en warana's zwaar geëxploiteerd voor de export, wat tegen het midden van de 20e eeuw leidde tot ernstige bevolkingsdalingen. Dit inziend, voerde de regering van Suriname nationale wettelijke beschermingsmaatregelen in, beginnend in 1954, gevolgd door de oprichting van belangrijke nestreservaten zoals het Wia-Wia Natuurreservaat in 1961 en het Galibi Natuurreservaat in 1969.

Sinds de jaren negentig heeft Suriname aanzienlijke vooruitgang geboekt op het gebied van conservering, in samenwerking met partners, waaronder STINASU, WWF, Stidunal, LBB/Natuurbeschermingsafdeling (NB), WIDECAST, en andere nationale, regionale en internationale organisaties. Belangrijke mijlpalen zijn onder meer het verplicht gebruik van Turtle Excluder Devices (TEDs) in garnalentrawlers, en de instelling van een verboden viszone bij Galibi. Monitoringinstrumenten zoals PIT-tagging en satellietzenders hebben het inzicht in de bewegingen van schildpadden en de populatiedynamiek versterkt, terwijl het Regionale Actieplan (RAP) uit 2022 voor Lederschildpadden in het Noordwestelijke Atlantische gebied voor de Grotere Caribische Regio een verenigend kader bood voor het behoud van schildpadden in de Guyana's en Trinidad en Tobago.

Ondanks de vorderingen op het gebied van conservering, blijven er aanzienlijke bedreigingen bestaan en komen er nieuwe bedreigingen bij. De voornaamste bedreigingen voor de zeeschildpadden van Suriname omvatten Illegale, Ongecontroleerde en Ongereguleerde (IOO) visserij en bijvangst in de visserij, wat de voornaamste oorzaak blijft van sterfte op zee. Klimaatverandering en kusterosie zijn eveneens grote zorgen, aangezien de stijgende zeespiegel, sterkere stormen en toenemende zandtemperaturen het geschikte nestelhabitat verminderen, wat leidt tot frequent nestverlies en scheve geslachtsverhoudingen van de uitgekomen jongen. Vervuiling door zwerfvuil in de zee, spooknetten, olielozingen en slecht afvalbeheer tast de habitats verder aan en brengt zeeschildpadden in gevaar door verstrengeling, inname en contaminatie. Predatie en invasieve soorten, waaronder de groeiende toevloed van Sargassumwier, bedreigen zowel nestelende vrouwtjes als uitgekomen jongen. Illegale oogst van schildpadden en eieren blijft bestaan als gevolg van zwakke handhaving, onvoldoende patrouillemiddelen en economische afhankelijkheid van schildpaddenproducten; dit alles ondermijnt de lopende conserveringsinspanningen. Bovendien blijft het Surinaamse regelgevingskader gefragmenteerd en wordt het onvoldoende gehandhaafd. Onvoldoende coördinatie tussen overheidsinstanties, NGO's en belanghebbenden uit de gemeenschap is eveneens geïdentificeerd als een probleem dat effectieve conservering belemmert, terwijl de regionale samenwerking met buurland Frans-Guyana formele versterking behoeft om gedeelde beheersuitdagingen aan te pakken.

Het STRAP heeft tot doel deze beperkingen voor natuurbehoud aan te pakken en de levensvatbaarheid van onze zeeschildpaddenpopulaties op de lange termijn te herstellen door middel van een inclusieve, op wetenschappelijk bewijs gebaseerde aanpak die de rechten van inheemse volkeren respecteert en voldoet aan internationale verplichtingen. De overkoepelende doelstelling is om tegen 2035 een toename van 10% te realiseren in het aantal jaarlijks gelegde nesten en de nestpopulatie van de lederschildpad terug te brengen naar het niveau van 2020. Vooruitblikkend zullen de belangrijkste doelstellingen van Suriname's strategie voor de bescherming van zeeschildpadden zich richten op het versterken van de bescherming en het beheer van zowel nest- als mariene habitats, door de oprichting van een nationaal netwerk van mariene parken en de instelling van een visserijvrije zone bij Tijgerbank. Inspanningen zullen ook gericht zijn op het uitbreiden van de patrouilledekking en de handhavingscapaciteit door extra personeel aan te werven, technologieën zoals drones te integreren, monitoringsystemen voor vaartuigen (VMS) te verbeteren en lokale gemeenschappen te betrekken bij beschermingsactiviteiten. Ook het verbeteren van praktijken in broedplaatsen en het ontwikkelen van adaptieve maatregelen om de gevolgen van klimaatverandering aan te pakken, zijn prioriteiten.

Instelling van een visserijvrije zone bij Tijgerbank. Om duurzaamheid op de lange termijn te waarborgen, legt dit Plan de nadruk op duurzame financieringsmechanismen en een grotere betrokkenheid van de particuliere sector. Daarnaast zullen het stimuleren van onderzoek, het versterken van regionale samenwerking en het implementeren van een geïntegreerde maritieme ruimtelijke ordening bijdragen aan besluitvorming op basis van feiten. Tot slot is het opbouwen van sterke partnerschappen met de gemeenschap essentieel om de bescherming van zeeschildpadden af te stemmen op de lokale middelen van bestaan en om blijvend rentmeesterschap aan te moedigen. Hoewel Suriname een sterke nationale betrokkenheid heeft getoond en de afgelopen 70 jaar meetbare vooruitgang heeft geboekt op het gebied van natuurbescherming, vereist het behoud en herstel van zeeschildpaddenpopulaties het dichten van mazen in de wet, het waarborgen van effectieve handhaving, het aanpakken van bedreigingen op zee en het verdiepen van de samenwerking met gemeenschappen en de regio. Dit is noodzakelijk om ervoor te zorgen dat Suriname een van de belangrijkste broedplaatsen voor zeeschildpadden in de Westelijke Atlantische Oceaan blijft.

# RESUMEN EJECUTIVO

Este Plan de Acción para la Recuperación de las Tortugas Marinas (STRAP) para Surinam sirve para guiar la conservación y gestión de las tortugas marinas en Surinam durante un período de diez años (2026-2035). Cuatro especies de tortugas marinas – la laúd (*Dermochelys coriacea*), la verde (*Chelonia mydas*), la golfina (*Lepidochelys olivacea*) y la de carey (*Eretmochelys imbricata*) – anidan a lo largo de la costa de Surinam, principalmente en las dinámicas playas de Braamspunt y Galibi. Aunque se registraron más de 14.000 nidos en 2023, las poblaciones de tortugas marinas en Surinam han experimentado un declive general dramático. Esto es particularmente evidente entre las tortugas laúd, cuyos números han disminuido en más del 90% en las últimas dos décadas. Las tortugas golfinas, que también se alimentan y migran a través de las aguas de Surinam, han sufrido una reducción similar, pasando de un estimado de 178 nidos registrados en 2002 a menos de 10 en 2023.

Históricamente, las tortugas verdes y golfinas de Surinam fueron intensamente explotadas para la exportación, lo que provocó graves disminuciones de la población a mediados del siglo XX. Reconociendo esto, el Gobierno de Surinam introdujo protecciones legales nacionales a partir de 1954, seguidas por el establecimiento de reservas de anidación clave como la Reserva Natural Wia-Wia en 1961 y la Reserva Natural Galibi en 1969.

Desde la década de 1990, Surinam ha logrado avances significativos en conservación en colaboración con socios como STINASU, WWF, Stidunal, LBB/División de Conservación de la Naturaleza (NB), WIDECAST y otras organizaciones nacionales, regionales e internacionales. Los principales logros incluyen el uso obligatorio de Dispositivos Excluidores de Tortugas (TEDs) en arrastreros camaroneros, y el establecimiento de una zona de exclusión pesquera en Galibi. Herramientas de monitoreo como el etiquetado PIT y satelital han fortalecido la comprensión de los movimientos de las tortugas y la dinámica poblacional, mientras que el Plan de Acción Regional (RAP) de 2022 para las Tortugas Laúd del Atlántico Noroccidental en la Región del Gran Caribe proporcionó un marco unificador para la conservación de las tortugas en las Guayanas y Trinidad y Tobago.

A pesar de los avances en la conservación, persisten amenazas significativas y están surgiendo nuevas. Las principales amenazas para las tortugas marinas de Surinam incluyen la pesca Ilegal, No Declarada y No Reglamentada (INDNR) y la captura incidental en pesquerías, que sigue siendo la principal causa de mortalidad en el mar. El cambio climático y la erosión costera también son grandes preocupaciones, ya que el aumento del nivel del mar, las tormentas más fuertes y el incremento de la temperatura de la arena están reduciendo los hábitats de anidación adecuados, lo que lleva a la pérdida frecuente de nidos y a proporciones sesgadas de sexo de las crías. La contaminación por desechos marinos, redes fantasma, derrames de petróleo y una gestión deficiente de residuos degrada aún más los hábitats y pone en peligro a las tortugas marinas a través del enredo, la ingestión y la contaminación. La depredación y las especies invasoras, incluida la creciente afluencia de sargazo, también amenazan tanto a las hembras anidantes como a las crías. La captura ilegal de tortugas y huevos continúa debido a la débil aplicación de la ley, la insuficiencia de recursos de patrullaje y la dependencia económica de los productos derivados de la tortuga, factores que socavan los esfuerzos de conservación en curso. Además, el marco regulatorio de Surinam sigue fragmentado e inadecuadamente aplicado. La insuficiente coordinación entre agencias gubernamentales, ONG y partes interesadas de la comunidad también ha sido identificada como un problema que obstaculiza la conservación efectiva, mientras que la cooperación regional con la vecina Guayana Francesa requiere

un fortalecimiento formal para abordar los desafíos de gestión compartidos.

El STRAP tiene como objetivo abordar estas limitaciones para la conservación y restaurar la viabilidad a largo plazo de nuestras poblaciones de tortugas marinas mediante un enfoque inclusivo y basado en la evidencia, que respeta los derechos de los pueblos indígenas y cumple con las obligaciones internacionales. Su objetivo general es lograr, para 2035, un aumento del 10 % en el número de nidos depositados por año, restaurando la anidación de la tortuga laúd a los niveles de 2020.De cara al futuro, los objetivos clave de la estrategia de conservación de tortugas marinas de Surinam se centrarán en fortalecer la protección y gestión de los hábitats tanto de anidación como marinos, a través de la creación de una red nacional de parques marinos y el establecimiento de una zona libre de pesca en Tijgerbank. Los esfuerzos también pretenden ampliar la cobertura de patrullaje y la capacidad de cumplimiento mediante la contratación de personal adicional, la incorporación de tecnologías como drones, la mejora de los sistemas de seguimiento de embarcaciones (VMS) y la participación de las comunidades locales en las actividades de protección. La mejora de las prácticas en los criaderos y el desarrollo de medidas adaptativas para hacer frente a los impactos del cambio climático también son prioridades.

Para garantizar la sostenibilidad a largo plazo, este Plan enfatiza los mecanismos de financiamiento sostenible y una mayor participación del sector privado. Además, el fomento de la investigación, el fortalecimiento de la cooperación regional y la implementación de una planificación espacial marina integrada respaldarán la toma de decisiones basada en evidencia. Finalmente, la creación de alianzas comunitarias sólidas es esencial para alinear la conservación de las tortugas marinas con los medios de vida locales y fomentar un sentido de responsabilidad duradero. Si bien Surinam ha demostrado un fuerte compromiso nacional y ha logrado avances mensurables en conservación durante los últimos 70 años, el mantenimiento y la recuperación de las poblaciones de tortugas marinas requerirán cerrar las brechas regulatorias, garantizar una aplicación efectiva de la ley, abordar las amenazas en el mar y profundizar la colaboración comunitaria y regional. Esto asegurará que Surinam continúe siendo uno de los santuarios de anidación más importantes para las tortugas marinas en el Atlántico Occidental.

# RÉSUMÉ EXÉCUTIF

Ce Plan d'Action pour le Rétablissement des Tortues Marines (STRAP) pour le Suriname sert à guider la conservation et la gestion des tortues marines au Suriname sur une période de dix ans (2026-2035). Quatre espèces de tortues marines – la luth (*Dermochelys coriacea*), la verte (*Chelonia mydas*), l'olivâtre (*Lepidochelys olivacea*) et l'écaille (*Eretmochelys imbricata*) – nichent le long du littoral du Suriname, principalement sur les plages dynamiques de Braamspunt et Galibi. Bien que plus de 14 000 nids aient été enregistrés en 2023, les populations de tortues marines au Suriname ont connu un déclin global spectaculaire. Ceci est particulièrement évident chez les tortues luth, dont les effectifs ont chuté de plus de 90 % au cours des deux dernières décennies. Les tortues olivâtres, qui s'alimentent et migrent également dans les eaux du Suriname, ont subi une réduction similaire, passant d'environ 178 nids enregistrés en 2002 à moins de 10 en 2023.

Historiquement, les tortues vertes et les tortues olivâtres du Suriname ont été fortement exploitées pour l'exportation, ce qui a entraîné un grave déclin de leurs populations au milieu du XXe siècle. Reconnaissant cette situation, le gouvernement du Suriname a introduit des protections légales nationales à partir de 1954, suivies par l'établissement de réserves de nidification clés, telles que la Réserve Naturelle de Wia-Wia en 1961 et la Réserve Naturelle de Galibi en 1969.

Depuis les années 1990, le Suriname a réalisé des avancées significatives en matière de conservation en collaboration avec des partenaires tels que STINASU, WWF, Stidunal, LBB/Division de la conservation de la nature (NB), WIDECAST, et d'autres organisations nationales, régionales et internationales. Les principales étapes comprennent l'utilisation obligatoire de Dispositifs d'Exclusion des Tortues (TEDs) dans les chalutiers à crevettes, et l'établissement d'une zone d'interdiction de pêche à Galibi. Des outils de suivi tels que le marquage PIT et le suivi par satellite ont renforcé la compréhension des mouvements et de la dynamique des populations de tortues, tandis que le Plan d'Action Régional (RAP) de 2022 pour les Tortues Luth de l'Atlantique Nord-Ouest pour la région des Caraïbes au sens large a fourni un cadre unificateur pour la conservation des tortues à travers les Guyanes et Trinité-et-Tobago.

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Le STRAP vise à répondre à ces contraintes en matière de conservation et à restaurer la viabilité à long terme de nos populations de tortues marines grâce à une approche inclusive, fondée sur des données probantes, qui respecte les droits des peuples autochtones et satisfait aux obligations internationales. Son objectif général est d'atteindre, d'ici 2035, une augmentation de 10 % du nombre de nids pondus chaque année et de rétablir la nidification de la tortue luth aux niveaux observés en 2020. À l'avenir, les principaux objectifs de la stratégie de conservation des tortues marines du Suriname se concentreront sur le renforcement de la protection et de la gestion des habitats de nidification et marins, à travers la création d'un réseau national de parcs marins et l'établissement d'une zone d'exclusion de pêche à Tijgerbank. Les efforts viseront également à étendre la couverture des patrouilles et les capacités d'application de la loi en recrutant du personnel supplémentaire, en intégrant des technologies telles que les drones, en améliorant les systèmes de surveillance des navires (VMS) et en impliquant les communautés locales dans les activités de protection. L'amélioration des pratiques en écloserie et le développement de mesures d'adaptation pour faire face aux impacts du changement climatique constituent également des priorités.

Pour assurer la durabilité à long terme du programme, ce Plan met l'accent sur des mécanismes de financement durable et une plus grande implication du secteur privé. De plus, la promotion de la recherche, le renforcement de la coopération régionale et la mise en œuvre d'une planification spatiale marine intégrée soutiendront une prise de décision fondée sur des données probantes. Enfin, l'établissement de partenariats communautaires solides est essentiel pour aligner la conservation des tortues marines avec les moyens de subsistance locaux et encourager une gestion responsable et durable. Bien que le Suriname ait fait preuve d'un engagement national fort et ait réalisé des progrès mesurables en matière de conservation au cours des 70 dernières années, le maintien et le rétablissement des populations de tortues marines nécessiteront de combler les lacunes réglementaires, de garantir une application efficace des lois, de s'attaquer aux menaces en mer et d'approfondir la collaboration communautaire et régionale pour veiller à ce que le Suriname continue de servir d'important sanctuaire de nidification pour les tortues marines dans l'Atlantique Ouest.

# ACKNOWLEDGEMENTS

Suriname's Sea Turtle Recovery Action Plan was made possible through funding provided by WWF-Guianas and is part of a larger series of Sea Turtle Recovery Action Plans for the Wider Caribbean Region, supported by the Wider Caribbean Sea Turtle Conservation Network (WIDECAST) and the United Nations Environment Programme (UNEP) Caribbean Environment Programme (CEP). This work was informed by the knowledge, insights, and efforts of sea turtle conservation managers, practitioners and supporters from across the country, representing government and non-government sectors, indigenous and community-based organizations, the private sector, and individual sea turtle conservation champions. We also acknowledge and extend gratitude to the Government of Suriname and especially the Minister of Land Policy and Forest Management and the Minister of Oil, Gas, and Environment for recognizing the critical need for a collaborative, actionable framework to guide and enable long-term recovery of Suriname's sea turtles. Finally, the support of the regional WIDECAST network continues to be invaluable. This unique family of experts has, for several decades, engaged with our stakeholders to help ensure that best practices define our sea turtle conservation approach. We especially want to thank Soraya Wijntuin and Farah Mukhida, WIDECAST Country Coordinators in Suriname and Anguilla, BWI, respectively, and Dr. Louise Soanes for their leadership in bringing this document to completion.


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# FOREWORD

As the Minister of Land Policy and Forest Management, I am privileged to present Suriname's Sea Turtle Recovery Action Plan (STRAP) for the years 2026 to 2035. This comprehensive framework reinforces our steadfast commitment to protecting our nation's exceptional biodiversity, specifically focusing on the conservation and management of sea turtles in Suriname.

As the world's most forested nation, Suriname holds unique responsibility to safeguard its diverse ecosystems and the invaluable services they provide. This STRAP is a testament to our declaration to this duty, particularly regarding the protection and management of sea turtles as a protected species. It outlines a clear roadmap for addressing the challenges and opportunities that lie ahead, ensuring the continued conservation of these remarkable species.

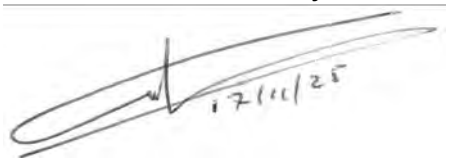
This STRAP is the outcome of extensive collaboration and consultation with a diverse array of stakeholders, including government agencies, indigenous and local communities, civil society organizations, and the private sector. Their invaluable contributions have enhanced this document, ensuring it reflects the varied perspectives and priorities of our nation.

The STRAP is organized around the strategy for the protection and management of sea turtles in Suriname. Each pathway contributes to safeguarding these protected species within the country.

We acknowledge that the successful implementation of the STRAP necessitates a collective effort from all sectors of society. We invite all stakeholders to join us in this endeavor, working collaboratively to protect and sustainably manage our nation's biodiversity for the benefit of both present and future generations.

I am confident that this STRAP will serve as a guiding light for Suriname's journey towards the further protection and management of sea turtles in the future.

Sincerely,
The Minister of Land Policy and Management



His Honorable Mr. S. Soeropawiro M.Sc.

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# ACRONYMS

| | |
|---|---|
| CBD | Convention on Biological diversity |
| CITES | Convention on International Trade in Endangered Species |
| CMS | Convention on the Conservation of Migratory Species |
| CT-USCER | Claudetta Toney University of Suriname for Chemistry, Engineering & Research |
| EEZ | Exclusive Economic Zone |
| EU | European Union |
| FMP | Fisheries Management Plan |
| GDP | Gross Domestic Product |
| GHFS | Green Heritage Fund Suriname |
| IAC | Inter-American Convention for the Protection and Conservation of Sea Turtles |
| ICCAT | International Convention for the Conservation of Atlantic Tunas |
| ICT | Information and Communication Technology |
| INDC | Intended Nationally Determined Contribution |
| IPLCS | Indigenous Peoples and Local Communities in Suriname |
| ITCZ | Inter-Tropical Convergence Zone |
| IUCN | International Union for the Conservation of Nature |
| IUU | Illegal, Unreported and Unregulated Fisheries |
| LBS | Land-Based Sources of Pollution |
| LBB | Suriname Forest Service |
| MARPOL | International Convention for the Prevention of Pollution from Ships |
| MUMA | Multiple Use Management Area |
| NBSAP | National Biodiversity Strategy and Action Plan |
| NCD | Nature Conservation Division / Natuurbeheer |
| NMA | National Environmental Authority |
| RAP | Regional Action Plan for Northwest Atlantic Leatherbacks for the Wider Caribbean Region |
| STINASU | Foundation for Nature Preservation in Suriname |
| STIDUNAL | Sustainable Nature Conservation Alusiaka |
| SPAW | Specially Protected Areas and Wildlife |
| TED | Turtle Excluder Device |
| UNCLOS | United National Convention on the Law of the Sea |
| UNFCCC | United Nations Framework Convention on Climate Change |
| VIDS | Association of Indigenous Village Leaders in Suriname |
| WIDECAST | Wider Caribbean Sea Turtle Conservation Network |
| WWF | World Wildlife Fund |
| UNEP | United Nations Environment Programme |

# I INTRODUCTION

## 1.1 COUNTRY DESCRIPTION

The Republic of Suriname is situated on the northeast coast of South America, between 2º and 6º North latitude at c.54º West longitude (Figure 1). As part of the Guiana Shield, the country borders the Atlantic Ocean to the north, Guyana to the west, French Guiana to the east, and Brazil to the south. Covering an area of c.164,000 $km^2$ and with a total population of over 646,500 (CIA, 2024), Suriname is one of the least densely populated countries in South America.

Much of Suriname is uninhabited, with 90% of the population living in the capital Paramaribo or along the coast (World Population Review, 2025). With a higher coastal population density, Suriname's interior neotropical rainforest has been largely left undisturbed, representing one of the few remaining intact forest habitats within the Amazon biome. Apart from its sprawling rainforests, savanna ecosystems are found in the country's northern regions, rising to mountains as you progress southward. The interior is characterized by Inselbergs and an extensive network of rivers that empty into estuaries and bays (Republic of Suriname, 2024). These habitats support a vast diversity of native, endangered and endemic terrestrial and marine species.

Beyond its terrestrial habitats, Suriname's maritime territory - its Exclusive Economic Zone - extends up to 200 nautical miles northward from the coast (Figure 2). Nearshore, mangrove forests line almost all of the country's coastline, though they are punctuated by sandy beaches, mud banks, and salt marshes, the former of which provide critical nesting habitat to endangered sea turtle species, especially green *Chelonia mydas* and leatherback *Dermochelys coriacea* sea turtles (see https://www.iucn-mtsg.org/statuses for global status updates). Offshore, Suriname's waters and seabeds are not only productive fishing grounds, they also provide critical foraging habitat and migratory pathways for greens, leatherbacks, hawksbills (*Eretmochelys imbricata*), and olive ridleys (*Lepidochelys olivacea*) (Álvarez-Varas *et al*., 2016).


## 1.2 HISTORIC OVERVIEW OF SURINAME'S SEA TURTLES

Sea turtle nesting in Suriname has been documented since the late 17th century, with the earliest records dating back to 1686 (Stedman 1796; Kappler 1881; Schulz, 1975). It was not, however, until the 1940s that precise observations were recorded by Diemont (1941) and Geijskes (1945). Prior to 1940, green and olive ridley sea turtles were harvested for export, with Geijskes (1945) estimating that between 1933 and 1940, local Amerindians harvested an average of 1000 green sea turtles and 1500 olive ridley sea turtles annually and further sold for export. This period saw a particularly intense level of harvesting, with approximately 3000 green turtles killed (including for export) between 1938 and 1939 alone.

Although commercial export slowed down after the 1940s, subsistence harvesting of nesting sea turtles continued. The impact of decades of unsustainable harvesting was apparent by the late 1960s, with only approximately 1000 individuals coming to shore to nest (Schulz, 1975). In an effort to address plummeting sea turtle populations, nesting and foraging sea turtle species were legally protected in 1954, followed by enhanced habitat protection through the establishment of protected areas (though notably without the consent of local indigenous communities) with the designation of the Wia-Wia Nature Reserve in 1961 and the Galibi Nature Reserve in 1969. This structural framework has provided critical protection to nesting and foraging sea turtles. Commercial egg collection, which intensified during the 1940s to meet demand from the Asian market was similarly prohibited, although exceptions have been made and collection is still permitted for subsistence use in recognition of indigenous people's cultural and traditional practices.

## 1.3 CONTEMPORARY EFFORTS ON BEHALF OF SEA TURTLES

Although harvested for decades, sea turtle population monitoring, especially in response to harvesting pressure, was not undertaken until 1967 when a comprehensive sea turtle nesting monitoring program was launched by the Suriname Forest Service (LBB), with results published in the seminal book *Sea Turtle Nesting in Surinam* (Schulz, 1975). In 1969, responsibility for sea turtle conservation was formally assigned to the Foundation for Nature Preservation in Suriname (STINASU), a nongovernmental agency responsible for conservation research, nature education, and tourism within Suriname's nature reserves. This conservation program represented a significant investment and focus on sea turtle conservation and protection and included a flipper tagging program of all four of Suriname's sea turtle species (1966-1973) and the establishment of artificial hatcheries where nests threatened

by beach erosion, saltwater inundation, and/or predators were relocated. The success of this translocation program was significant with a hatching success rate of 60%. A green sea turtle farm was established in 1977 within the estuary of the Matapica Canal. This farm was established for both conservation as well as for commercial purposes: during its operations, which ended in 1985, 1000 juvenile sea turtles were hatched, raised and released, with an additional 1000 sold to the Cayman Islands turtle farm for consumption.

Throughout this period, research continued to be conducted on turtle biology, nesting behavior, and threats. Aerial surveys of Suriname's coastline between 1968 and 1973 indicated significant leatherback sea turtle nesting, while in-water and fisheries surveys suggested that by-catch was increasingly becoming an existential threat to the long-term survival of sea turtle populations. International interest in Suriname's sea turtles continued to grow, with the International Union for the Conservation of Nature (IUCN) and the World Wildlife Fund (WWF) investing in national sea turtle conservation efforts, including the establishment of a WWF-Guianas office in Suriname in 1999.

Since then and in partnership with WWF and other leading conservation, research and academic organizations and agencies, the Government of Suriname and STINASU have achieved additional significant local sea turtle conservation milestones, including the mandatory use of Turtle Excluder Devices (TEDs) in Suriname's shrimp fisheries (1992), the development of Suriname's first Sea Turtle Recovery Action Plan (1993), and the creation of a no-fishing zone in front of Galibi's sea turtle nesting sites (2001). More recently, Suriname's sea turtle conservation program has utilized passive integrated transponder (PIT) tagging (1999-2005) and satellite tagging (2005, 2011-2012) to track sea turtles, all part of continued collaborative efforts to protect these at-risk species (Reichart & Fretey, 1993; Turny *et al*., 2022).

Over the last few years, specific attention has been placed on identifying drivers of decline among leatherback turtles in the wider Caribbean (Eckert & Hart, 2021) and the subsequent development and implementation of the Northwest Atlantic Leatherback (*Dermochelys coriacea*) Regional Action Plan for the Wider Caribbean Region (Barragan *et al*., 2022). While focused on the conservation of leatherbacks, the Regional Action Plan also serves as an umbrella strategy to further benefit green, hawksbill, and olive ridley sea turtles.

Financial support from the European Union (EU) was secured in 2024 to progress targeted actions outlined within the Regional Action Plan to collaboratively support enhanced sustainable fisheries management in the Guianas, and more specifically to address illegal, unreported and unregulated (IUU) fishing by strengthening Suriname's (and Guyana's) monitoring, control and enforcement capacity, addressing the root causes of IUU fishing, strengthening bilateral cooperation and raising civil society awareness and supporting grassroots advocacy through youth empowerment. With additional funding, stakeholders in Suriname have been working with sub-regional partners to increase sustainability of the country's fisheries sector through the development an actionable roadmap for the implementation of sustainable fisheries projects, including bycatch reduction initiatives, no-fishing zones within the Guiana Shield, and market-based incentives. These EU-supported initiatives are being conducted within the wider context of an on-going, transboundary, collaborative, community-based sea turtle conservation program and enhanced protected areas management.


Figure 1. Location of Suriname. Basemap World Topographic Map (ArcPro)

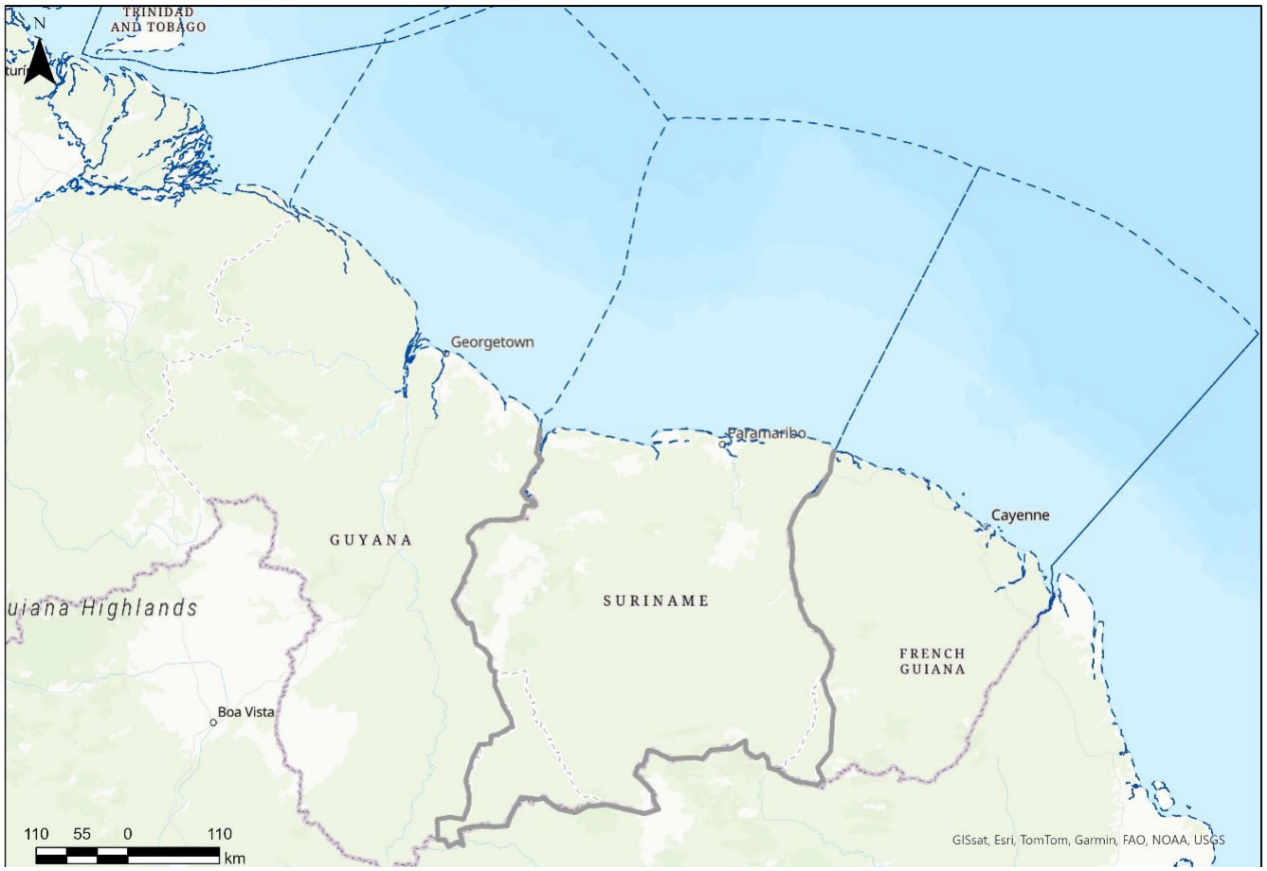


Figure 2. Map highlighting the Exclusive Economic Zones (EEZ) of the Guianas. Basemap World Topographic Map (ArcPro); EEZ layer from Flanders Marine Institute (2024).

# II NATIONAL LAWS AND MULTILATERAL ENVIRONMENTAL AGREEMENTS

## 2.1 NATIONAL POLICIES AND LEGISLATION

Drawing upon a long history of conservation efforts, Suriname has established national legislation to protect its sea turtles and the habitats upon which they rely. All life stages of all species of sea turtles frequenting Suriname's waters and nesting on its beaches are protected under De Jachtwet 1954 (Game Law 1954). Key nesting habitats are similarly protected by law through the establishment of nature reserves. Multiple-Use Management Areas (MUMAs) have also been established by law to safeguard Suriname's natural heritage, prohibiting activities that may harm biodiversity and/or ecosystem integrity. For example, hunting, fishing, harvesting of trees, among other activities, are all prohibited within nature reserves unless otherwise authorized by the NCD.

In-water, fisheries-related legislation (Zeevisserijwet 1980 - Sea Fishery Act 1980) and the Fisheries Management Plan for Suriname (2021-2025) (FMP) (LVV, 2021) seek to address IUU fishing as well as to reduce bycatch and to regulate fishing pressure and harvesting levels through licencing vessels and restricting fishing gear that could compromise fish stocks and the long-term sustainability of the sector.

Efforts to integrate and mainstream environmental into a range of development sectors and decision-making processes, promoting a holistic approach to environmental management is facilitated through Wet Milieu Beheer 2020 (Gouvernementsblad van Suriname No. 97) (National Environmental Act 2020, Government Publication of Surname No. 97) which also establishes the National Environmental Authority (NMA). The NMA, as an independent administrative body, ensures and enables the implementation of commitments outlined within international agreements, including (but not limited to) the UN Framework Convention on Climate Change, the UN Convention on Biological Diversity, the Paris Agreement, and the Stockholm Convention on persistent organic pollutants.

Suriname's updated National Biodiversity Strategy and Action Plan (NBSAP) (2024-2035), approved for implementation by the Government of Suriname in 2025, reflects Suriname's commitment to the sustainable management and conservation of its rich biodiversity, while recognizing and acknowledging its people's


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interconnectedness with nature and the value of diverse knowledge systems. Taking a whole community and whole ecosystem approach to implementation, the NBSAP seeks to strengthen capacity amongst all stakeholders while also addressing threats and taking actions that protect sea turtles and conserve their habitats through the establishment of new protected areas, ecosystem and biodiversity assessments, and tangible on-the-ground restoration and/or rehabilitation initiatives (Republic of Suriname, 2024).

## 2.2 REGIONAL AND INTERNATIONAL AGREEMENTS, POLICIES, AND PLANS

Beyond national legislation, the Government of Suriname is party to a number of regional and international multilateral environmental agreements aimed at protecting sea turtles and the habitats upon which they depend. All sea turtle species are at-risk of extinction and are listed on the IUCN Red List of Threatened Species. They are afforded full protection under Annex II of the Protocol Concerning Specially Protected Areas and Wildlife (SPAW Protocol), Appendix I of the Convention on the  Conservation of Migratory Species (CMS), and Appendix I of the Convention on International Trade in Endangered Species (CITES) (Eckert, 1991; Bräutigam & Eckert, 2006; Koubrak *et al*., 2021).


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Table 1. National legislation governing sea turtle conservation and protection in Suriname.

| Category | Legislation | Purpose/Provisions | Responsible Agency |
|---|---|---|---|
| National Laws | De Jachtwet 1954 (Game Law 1954, Govt. Publication No. 25), Game Resolution 2002 No. 116 | Full protection for all mammals and birds, except designated game/cage/harmful species; *Dermochelys coriacea* and *Chelonia mydas* are classified as game species with a year-round closed hunting season, meanwhile *Lepidochelys olivacea*, *Eretmochelys imbricata* and *Caretta caretta* are protected species. The eggs of these five sea turtle species are protected by the Law. It is prohibited to collect, possess and consume these specimens and their eggs. | LBB / NCD |
| | Natuurbeschermingswet 1954 (Nature Preservation Law 1954) | Establishes nature reserves; prohibits harmful activities such as: hunting, fishing, logging, collecting, open fires. | LBB / NCD |
| | Beschikking Instelling Beheersgebieden. (Ministerial Decree on Establishing Management Areas) | Establishes Multiple Use Management Areas (MUMAs). Sustainable activities that are not harmful to the ecological functions of the MUMA, are allowed. | LBB / NCD |
| | Zeevisserijwet 1980 (Sea Fishery Act 1980) | Sustainable fisheries management; requires Turtle Excluder Devices (TEDs) in shrimp trawl nets; monitors fishing activities via GPS. | Department of Fisheries |
| | National Fisheries Management Plan (2014–2018) & updated 2021–2025 | Controls/reduces fishing capacity, monitors stocks, ensures sustainability, protects non-target species (including sea turtles). | Department of Fisheries |
| | Wet Milieu Beheer 2020 (National Environmental Act 2020, Govt. Publication No. 97) | Promotes sustainable development; integrates environmental considerations into decision-making; mandates Environmental Impact Assessments; protects endemic flora and fauna. | National Environmental Authority (NMA) |
| National Strategies | National Biodiversity Strategy and Action Plan (NBSAP) 2024–2035 | Four pathways: 1) Conservation of biodiversity, 2) Sustainable use, 3) Fair access & benefit sharing, 4) Mainstreaming and enabling conditions; includes sea turtle protection via protected areas, habitat restoration, ETP species management, and community-based conservation. | Ministry of Oil, Gas and Environment / LBB / NCD |

Table 2. An overview of the Government of Suriname's commitment to regional and international multilateral environmental agreements

| WCR Convention / Agreement (date=entry into force) | Year Adopted / Ratified by Suriname | Purpose / Relevance to Sea Turtles | Notes / Implementation |
|---|---|---|---|
| **Cartagena Convention, 1986a** | Not Adopted | Framework convention for sustainable development of the Caribbean Sea | |
| **Oil Spills Protocol (under Cartagena), 1986b** | Not Adopted | Protect fragile ecosystems and endangered species from oil spills | Article 10 addresses habitat protection |
| **SPAW Protocol (Specially Protected Areas and Wildlife, under Cartagena), 2000** | Not Adopted | Provides regional protection for flora and fauna | Annex II includes all Caribbean Sea turtles |
| **LBS Protocol (Land-Based Sources of Pollution, under Cartagena), 2010** | Not Adopted | Reduces pollution from land-based sources affecting critical watersheds, coastal areas, and marine habitats | Supports nesting and foraging habitat protection |
| **Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC), 2001** | Observer since 2025, Suriname exploring accession | Protects sea turtles and their habitats; prohibits deliberate take; promotes sustainable fishing, TED use, protected areas, and research | Suriname aligns with goals via national regulations but not yet a party |
| **Northwest Atlantic Leatherback Regional Action Plan (RAP)** | Endorsed, 2022 | Recovery and protection of leatherback populations across the Guianas and Trinidad & Tobago | Addresses threats including bycatch, pollution, and habitat loss; complements national action plans |
| **CITES (Convention on International Trade in Endangered Species of Wild Fauna & Flora), 1975** | 1980 (signed) | Regulates international trade of endangered species; all sea turtles in Appendix I (except leatherbacks and greens treated as Appendix II in Suriname) | Enforcement by Customs/ Police; Wildlife Management Authority = Management Authority; NCD = Scientific Authority |
| **CBD (Convention on Biological Diversity), 1983** | Ratified 1996 | Conservation and sustainable use of biodiversity; fair sharing of benefits | Sea turtles recognized as exceptional biodiversity species; informs national strategies |

Table 2. An overview of the Government of Suriname's commitment to regional and international multilateral environmental agreements cont'd

| WCR Convention / Agreement | Year Adopted / Ratified by Suriname | Purpose / Relevance to Sea Turtles | Notes / Implementation |
|---|---|---|---|
| **CMS (Convention on the Conservation of Migratory Species), 1983** | Acceded 1996 | Protects migratory species and habitats; includes all sea turtles in Appendix I | Promotes international cooperation for migratory species |
| **UNESCO: Ramsar Convention, 1994** | Acceded 1985 | Conservation and wise use of wetlands, including nearshore turtle habitats | MUMA Coppename Monding Nature Reserve designated 1989 |
| **MARPOL (International Convention for the Prevention of Pollution from Ships), 1973** | Ratified 1983; Suriname party to Annexes I, II, III, V | Reduces marine pollution from ships (oil, chemicals, garbage, air) | Annex IV not ratified due to technical capacity |
| **UNCLOS (UN Convention on the Law of the Sea), 1994** | Ratified 1998 | Marine resource management and habitat protection | Articles 192, 194(5), 123, 197 relevant to sea turtles |
| **London Convention (Dumping of Wastes at Sea), 1975** | Adopted 1972 | Controls ocean dumping of harmful wastes | Uses the black-gray approach with the dumping of certain materials being strictly prohibited (Annex I), other materials require special care and permits (Annex II), and others yet requiring general permits (Annex III) |
| **ICCAT (International Convention for the Conservation of Atlantic Tunas), 1969** | Suriname is a Cooperating Non-Party | Sustainable management of Atlantic tuna fisheries | Fisheries must adopt safe handling/release for turtles and record/report by-catch |
| **UNFCCC (United Nations Framework Convention on Climate Change), 1992** | Ratified 1994 | Climate change mitigation and adaptation; integrates biodiversity conservation | Suriname's INDCs include sustainable forestry, protected areas, alternative energy, climate resilience for biodiversity and sea turtles |

# III STATUS AND DISTRIBUTION OF SEA TURTLES IN SURINAME

Four sea turtle species are known to nest in Suriname, with green (*Chelonia mydas*) and leatherback (*Dermochelys coriacea*) turtles being the most abundant, followed by olive ridley (*Lepidochelys olivacea*) and hawksbill (*Eretmochelys imbricata*) turtles (Eckert & Eckert, 2019). Historically, olive ridley turtles nested in large numbers; however, fisheries interactions have undoubtedly contributed to their decline (Reichart & Fretey, 1993). Loggerheads (*Caretta caretta*) have only been recorded once (in 1969) and Kemp's ridleys (*Lepidochelys kempii*) have never been reported, which is not unexpected as its biogeographical range does not extend as far south as Suriname. In Suriname, turtle nesting primarily occurs on the country's two main beaches, Braamspunt and Galibi (Eckert & Eckert, 2019), where over 14,000 nests were recorded in 2023 (WWF, 2024) (Figure 3).

Within Suriname's waters, green turtles are the most frequently observed species, particularly during their nesting periods between April-May around the Braamspunt beach. Olive ridley turtles are more frequently recorded within neritic (shallow coastal) zones where they feed in the productive waters created by the Amazon plume (Schulz, 1975; Chambault *et al*., 2016). Relatively few sightings of leatherback turtles have been recorded offshore (De Boer *et al*., 2022).

Before presenting specific data on individual species, it's useful to provide a general overview of sea turtle biology. The following four paragraphs are adapted from Bräutigam & Eckert (2006), which should be consulted for supporting references. Sea turtles are slow-growing, late-maturing (age at sexual maturity from one to three decades or more) and long-lived, with naturally high rates of egg and young juvenile mortality and low rates of adult mortality. These attributes, coupled with multiple breeding seasons (with adult females laying eggs every 2-5 years, on average) and overlapping generations, mean that long-term data collection is vital for the estimation of key demographic parameters and for informing management decisions.

Compounding the management challenges posed by life-history traits are those arising from an elaborate life cycle defined by a broadly predictable but often poorly understood series of changes—so-called ontogenetic shifts


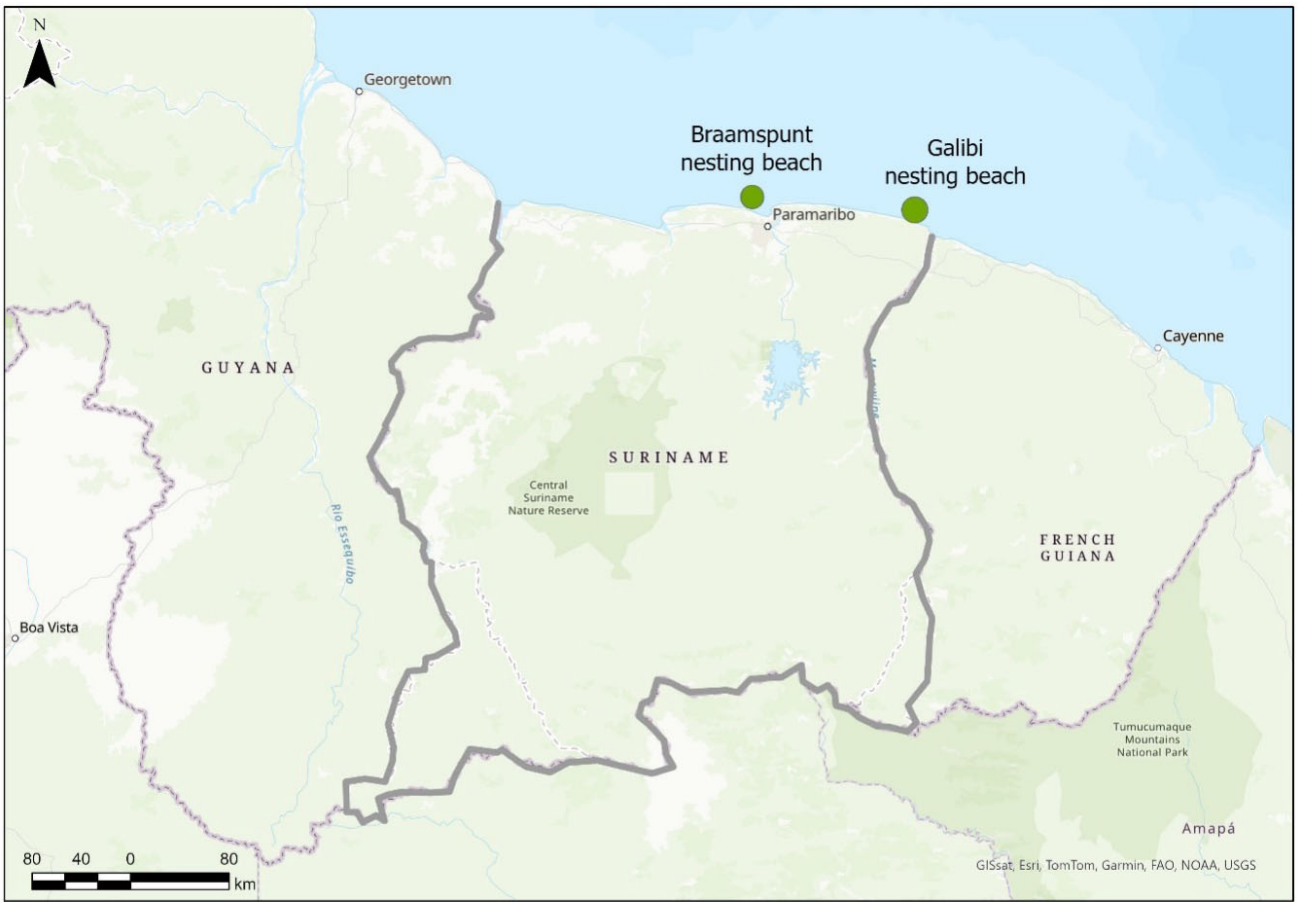


Figure 3. Location of the two primary sea turtle nesting beaches in Suriname. Basemap World Topographic Map (ArcPro)

in location and habitat—that occur over the course of a marine turtle's life and often incorporate long-distance migration. At any point in time, a genetically distinct population of marine turtles is spread across several, and perhaps several dozen, geo-political units.

Research indicates that individual turtles are unlikely to remain in natal habitats throughout their lives. Hatchlings emerge from the sand, orient to the sea, and engage in a swim frenzy, well known to science, that ultimately leads them into oceanic convergence zones that offer food and shelter during their early years. Young juveniles (with the exception of the elusive giant leatherback) eventually return to coastal waters, assuming their characteristic diets, and may travel significant distances through multiple political jurisdictions prior to reaching maturity, at which time adult females return to the general area where they were born, sometimes undertaking trans-oceanic journeys, to engage in egg-laying.

Seasonal nesting populations and nearshore foraging aggregations exhibit varying degrees of genetic relation; thus, conservation measures directed at local nesting colonies will not necessarily benefit local foraging stocks and vice versa. Foraging assemblages are typically a mixed assortment of (primarily) juveniles and (fewer) adults drawn from nesting rookeries near and far. Nesting assemblages, on the other hand, comprise females drawn to the beach by the gravity of instinct, the signature of their natal coastline indelibly marked in their genetic code. Adult females pass the code to their daughters, who will repeat the cycle as long as the natal beach provides suitable habitat.

Sea turtles are identified mainly through characteristic scute patterns; specifically, the number and formation of keratinized plates covering the carapace (shell) or, in the case of the leatherback, the absence of same. These are illustrated in Appendix 1.


## 3.1 GREEN SEA TURTLE (CHELONIA MYDAS)

The herbivorous green sea turtle, locally known as *Krapé*, is the most abundant nesting species in Suriname and shows relative long-term stability. In 2023, over 14,000 nests were recorded, representing approximately 98% of all sea turtle nests in the country (Figure 4) (WWF, 2024). Suriname's nesting beaches, particularly Braamspunt and Galibi, are among the most important green turtle rookeries in the wider Caribbean, underscoring the country's regional conservation importance.

Satellite tracking has shown that post-nesting green turtles from Suriname migrate thousands of kilometers to distant feeding grounds, including along the Brazilian coast (Baudouin *et al*., 2015; Chambault *et al*., 2018).

While local nesting populations fluctuate, they appear relatively stable over time. The apparent declines recorded in 2020 and 2024 may be due to incomplete monitoring effort rather than a population decline. Global conservation efforts have resulted in the species recently moved to "Least Concern" on the IUCN Red List (Wallace & Broderick, 2025), while still recognizing ongoing global threats such as fisheries bycatch, egg harvest, habitat loss, and climate change. The poaching of green turtle nests has been identified as a significant threat facing Suriname's nesting green turtles and monitoring and enforcement on nesting beaches are carried out by the Nature Conservation Division (NCD) of the Suriname Forest Service (LBB). However, challenges remain, particularly at the remote Galibi beaches where, for example, 74 green turtle nests were reportedly poached in 2023, with no arrests or prosecutions reported (WWF, 2024).

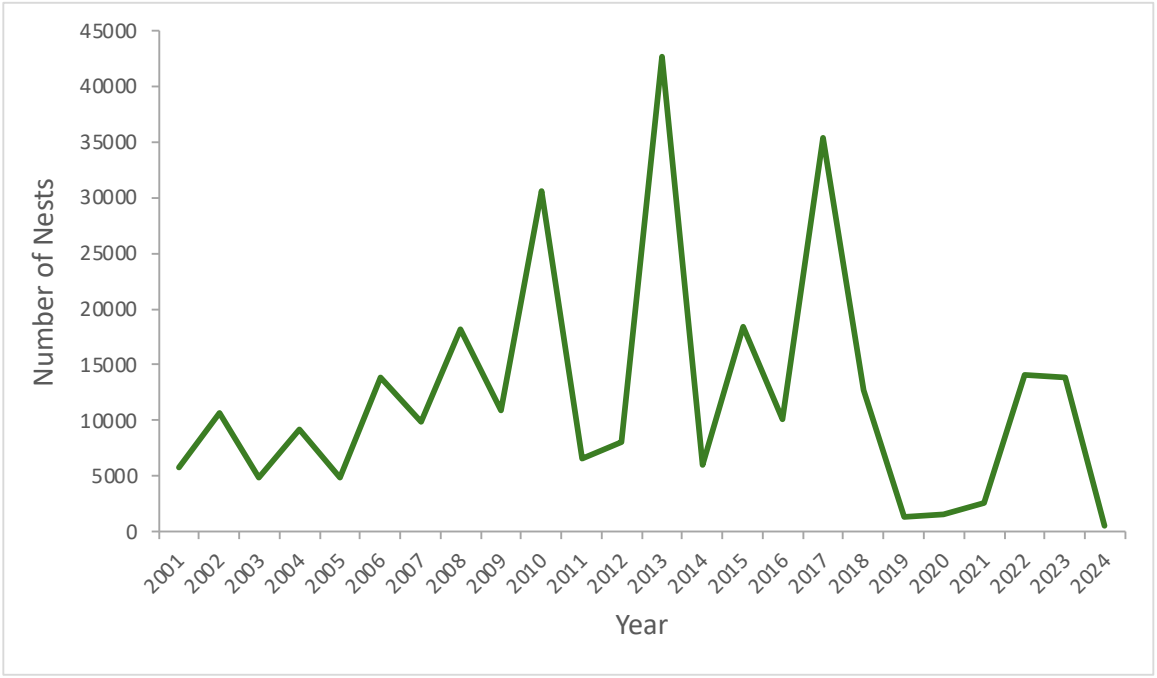


Figure 4. Number of green sea turtle nests recorded annually between 2001-2024. (NB. Monitoring was limited in 2020 due to Covid-19 restrictions; monitoring in 2024 was from May-July only). WWF-Guianas (2025)


## 3.2 HAWKSBILL SEA TURTLE (ERETMOCHELYS IMBRICATA)

In Suriname, the hawksbill turtle, locally known as *Karèt*, appears only occasionally alongside green, leatherback, and olive ridley turtles at key sites like Braamspunt and Galibi. Nesting is rare but nesting behavior appears to align with neighboring populations in the region (May to August peak, solitary night nesting). Hawksbills are recognized as Critically Endangered globally (Mortimer & Donnelly, 2008), facing severe threats including poaching, habitat degradation, illegal shell trade, and coastal development.


## 3.3 LEATHERBACK SEA TURTLE (DERMOCHELYS CORIACEA)

The leatherback turtle is the largest sea turtle nesting in Suriname, where it is locally known as *Aitkanti* or *Kawana* among the Galibi Indigenous community. While fishers distinguish between two forms of leatherback, the Aitkanti and the apparently smaller Siksikanti which local fishers note to be a different breeding population, scientific studies have not confirmed this.

Once the most common nesting sea turtle in Suriname, leatherbacks have suffered a dramatic decline, with populations dropping by approximately 97% over the past two decades (Figure 5). The species is recognized globally as Vulnerable by the IUCN (Wallace *et al*., 2013a) and Endangered in the North West Atlantic region (The Northwest Atlantic Leatherback Working Group, 2019).

In the early 2000s, the country supported a substantial rookery with an estimated 1,500 to 5,500 nesting females annually (Hilterman *et al*., 2007) but recent counts show a collapse that mirrors similar declines across the Guianas, including French Guiana where nest numbers have fallen by more than 90% (Eckert & Hart, 2022). The drivers of this decline are complex, including but not necessarily limited to coastal erosion, fisheries bycatch, egg poaching, and pollution as well as climate change and other human disturbances. In response, in 2023, WWF Guianas and partners launched a five-year Regional Action Plan (Barragan *et al*., 2022) that focuses on nesting beach monitoring, stronger law enforcement, community engagement to reduce egg consumption, and bycatch mitigation measures including turtle excluding devices.

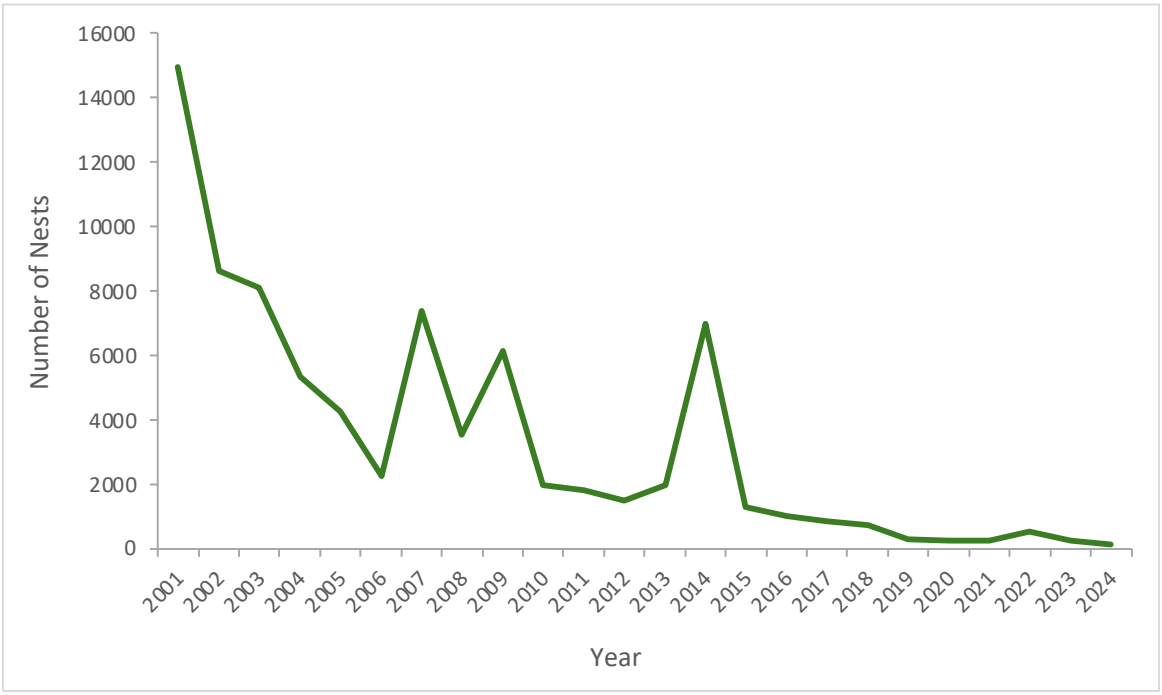


Figure 5. Number of leatherback sea turtle nests recorded annually between 2001-2024. (NB. Monitoring was limited in 2020 due to Covid-19 restrictions; monitoring in 2024 was from May-July). WWF-Guianas (2025)


## 3.4 OLIVE RIDLEY SEA TURTLE (LEPIDOCHELYS OLIVACEA)

The olive ridley turtle, locally known as *Warana*, has experienced a dramatic decline in Suriname. Historically, arribadas involved thousands of nests, with 3,290 nests recorded in 1968 but, by 1989, nest numbers had fallen by over 80% to just 585 (Reichart & Fretey, 1993). By 2024, fewer than nine nests per year were recorded, reflecting a near-collapse of the local population and a significant loss within the regional nesting network (Figure 6). At the same time and important to note, some nesting females appear to have shifted to beaches in French Guiana (Kelle *et al*., 2009). Olive ridley turtles are globally threatened and are classified as Vulnerable by the IUCN (Abreu-Grobois & Plotkin, 2008).

Olive ridleys face ongoing threats from egg harvesting, which historically reduced hatchling numbers, as well as fisheries bycatch as turtles are often accidentally caught in gillnets, longlines, and trawl nets (Sys, 2019). While mitigation measures such as TEDs have been implemented in some fisheries, the species' collapse in Suriname underscores the urgent need for enhanced monitoring, protection of nesting beaches, and regional conservation efforts across the Guianas.

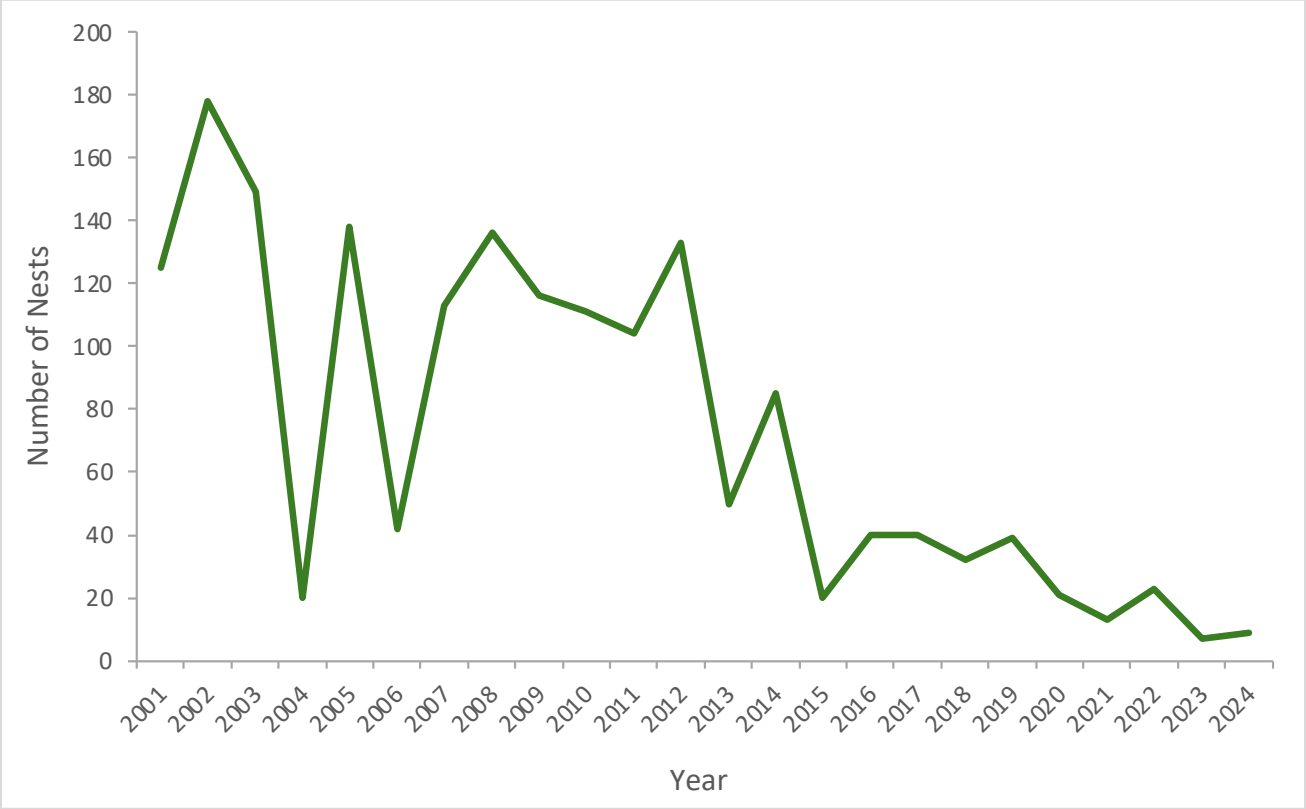


Figure 6. Number of olive ridley sea turtle nests recorded annually between 2001-2024. (NB. Monitoring was limited in 2020 due to Covid-19 restrictions; monitoring in 2024 was from May-July). WWF-Guianas (2025)

# IV THREATS TO SEA TURTLES

A review of Suriname's first Sea Turtle Recovery Action Plan (Reichart & Fretey, 1993) was conducted to compare the threats identified in that Plan with those documented in the 2022 Regional Action Plan for Leatherback Turtles (Barragan *et al*., 2022). In addition, current and emerging threats were identified through a stakeholder consultation and a dedicated workshop (April 2025), which brought together 42 participants from key agencies and organizations. These included representatives from the LVV Fisheries Department, LBB/Nature Conservation Division, STIDUNAL, Ministry of ROM, Coast Guard, Marine Police, Navy of the Ministry of Defense, Green Heritage Fund Suriname, the Galibi Community, WWF, and Anton de Kom University (see Appendix 2 for the full list of organizations consulted). Threats facing Suriname's sea turtles are discussed in more detail below.

## 4.1 INADEQUATE REGULATORY FRAMEWORK

While Suriname has made progress in protecting nesting sea turtles through legislation and the establishment of coastal reserves, the country's regulatory framework remains inadequate in several respects. For example, while the Hunting Act Resolution of 2002 banned the collection of sea turtle eggs, and the Galibi and Wia-Wia nature reserves provide legal protection for critical nesting sites, protection at sea is poorly defined, enforcement capacity is limited, and fines are reportedly too low to deter illegal harvesting. In addition, there are no established networks of Marine Protected Areas (MPAs), despite their importance for safeguarding turtles beyond nesting beaches (e.g., see Nel *et al*., 2013; Schofield *et al*., 2013; Roberts *et al*., 2021). The spatial planning legislation that could enable such measures is still under review by Government and the Nature Preservations Law (1954) and is currently being updated to include protected areas in the Marine zone.

Enforcement efforts are being undertaken collaboratively between the police and local NGOs, including 24-hour patrols at key nesting sites, destruction of poachers' camps, and the establishment of no-fishing zones near nesting beaches. However, coverage is limited due to a shortage of wildlife officers and resources, making consistent monitoring of all nesting beaches difficult. The economic incentive of selling turtle eggs, especially when fish catches


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are low, further undermines compliance with regulations. A particular challenge lies in Galibi, stemming from the intersection of indigenous communities' claims to traditional rights for sea turtle resource harvesting and the need for more rigorous conservation. While the government has recognized some traditional practices, unregulated harvest remains a conservation concern, and international commitments require more robust management and co-governance strategies.

During stakeholder consultations held in support of this recovery plan, the challenge of fragmented management was identified. While a variety of government agencies, NGOs, and local organizations are actively engaged in sea turtle conservation, limited coordination among them can reduce overall effectiveness. Strengthening collaboration and creating clearer pathways for local organizations to contribute could help ensure more inclusive and effective conservation outcomes.

Strengthening regional coordination across the Guianas is also essential for effective conservation of migratory sea turtles. Although informal agreements exist with French Guiana, the establishment of formal bilateral mechanisms is needed to ensure joint management of shared nesting beaches at the mouth of the Marowijne River and to address transboundary challenges such as illegal, unreported, and unregulated (IUU) fishing and bycatch.

## 4.2 THREATS TO SEA TURTLES AND TERRESTRIAL HABITATS

### 4.2.1 BEACH REBUILDING AND STABILIZATION STRUCTURES

Although coastal erosion is a significant issue along Suriname's shorelines, there has been little effort or perceived need to artificially rebuild beaches or to install stabilization structures. Instead, there is a general recognition that beaches are naturally dynamic and constantly shifting. At Braamspunt, limited reprofiling is carried out, but this is primarily to support sea turtle monitoring activities rather than as a stabilization measure (Anthony *et al*., 2019).

### 4.2.2 BEACHFRONT LIGHTING

Decades of research document the contribution of beachfront lighting to the disorientation and untimely death of adult and hatching sea turtles, based on the role that natural light plays in guiding sea turtles in their return to the sea. Witherington *et al*. (2014) provide a complete guide to the issue, and recommendations specific to the Wider Caribbean Region are found in Knowles *et al*. (2009) and Lake & Eckert (2009).

Fortunately, this threat was not identified as a significant factor affecting nesting sea turtles during stakeholder consultation as there is very little development along the beaches. Some reports of hatchling disorientation are noted along the south side of Braamspunt beach, likely due to lights from nearby fishing villages (Turny *et al*., 2022) as well as to support the expansion and development of ports at the Suriname estuary and river, but there is no evidence of hatchling mortality – or adult disorientation – due to these occurrences.

### 4.2.3 CLIMATE: STRONGER STORMS, BEACH EROSION, THERMAL REGIMES

Beach erosion is a dynamic process along Suriname's nesting beaches, including Matapica, Braamspunt, Diana, and Dwarsi, where sandy ridges naturally shift westward over time (Goverse, 2003; Eckert & Hart, 2021) (Figure 7). This shifting reduces the length of available nesting habitat, hampers enforcement and protection of reserves, and makes new or transient beaches difficult to monitor.

The natural cycles of coastal erosion and accretion notwithstanding, climate-induced erosion poses a major threat to sea turtle nesting in Suriname. A significant proportion of nests are laid below the high tide line and are frequently lost to tidal inundation or washed away by the sea. In the early 1980s, STINASU estimated that 25-30% of all eggs were destroyed in this way (Reichart & Fretey, 1993). Similarly, Dutton & Whitmore (1983) estimated that approximately 21% of green turtle eggs and 31.6% of leatherback eggs were deposited too low on the beach to survive without relocation by conservation staff. Although no recent data has been collected on the number of nests lost due to tidal inundation, anecdotal reports suggest it is a significant problem.

Climate change, which is bringing increased storms and sea level rise, is likely to further reduce suitable nesting areas (IUCN, 2009). Additionally, some nesting locations are periodically blocked by mudflats, a natural phenomenon linked to silt transport from the Amazon, which further limits beach availability (Hilterman & Goverse, 2007). Finally, more frequent inundation of nesting beaches also poses a significant threat to nesting success. For example, in November 2024, the sea turtle hatchery facility, located on the highest point of Braamspunt nesting beach, was completely flooded by extremely high sea levels.

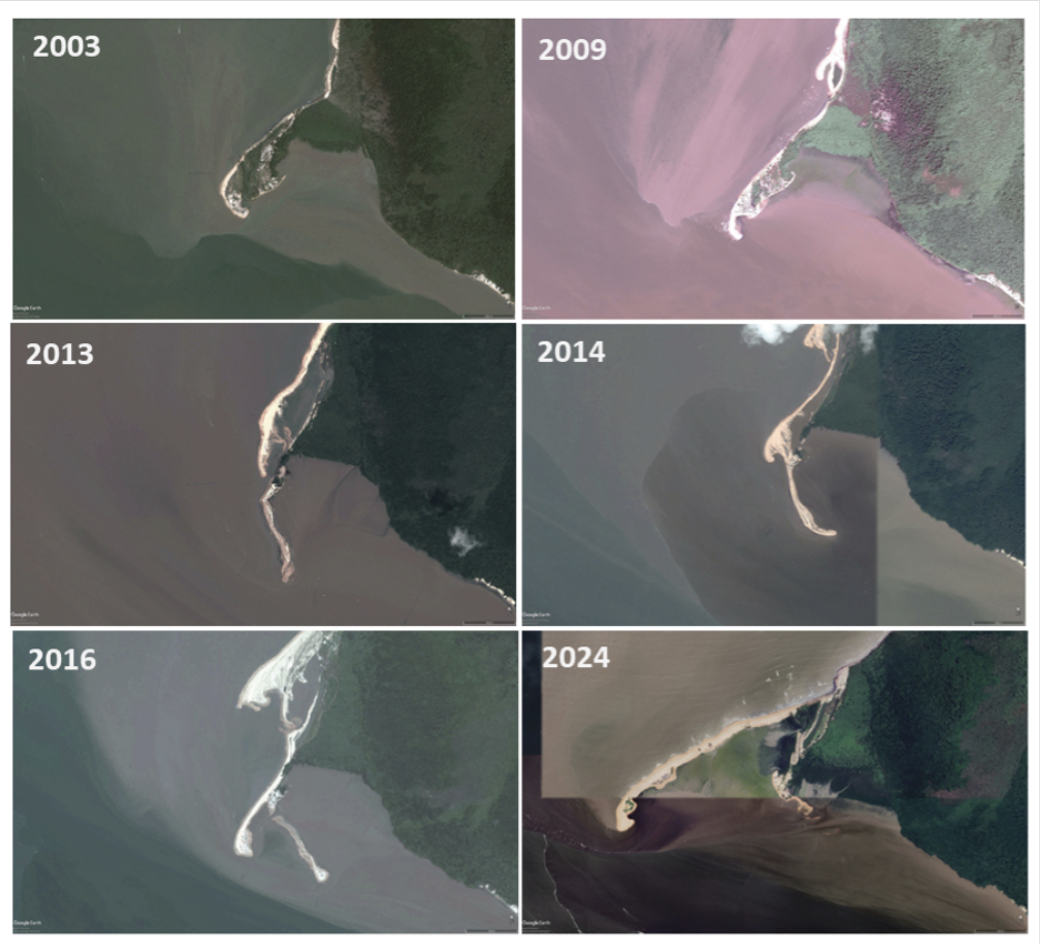


Figure 7. Selection of Google Earth (cloud-free) images highlighting the dynamic nature of Braamspunt nesting beach. Images from Google Earth Images (2025)

Several studies, both globally (e.g., Jensen *et al*., 2018) and nationally (Godfrey & Mrosovsky, 2006), have documented the influence of temperature on hatchling sex ratios, with warmer incubation conditions producing a higher proportion of female hatchlings. With climate change and rising temperatures, this phenomenon is expected to continue, resulting in skewed sex ratios and critically low reproductive success (Santidrián Tomillo *et al*., 2015; Maurer *et al*. 2021a). Perhaps even more concerning are recent observations of extreme heat events, such as those recorded in 2024. At the Braamspunt nesting beach, WWF reported complete nesting failure at the hatchery pilot, with many clutches effectively "boiled" within the sand.

Overall, coastal erosion, tidal inundation, and rising sand temperatures, driven by both natural processes and climate change, pose serious and growing threats to sea turtle nesting in Suriname.

### 4.2.4 COASTAL DEVELOPMENT: ENCROACHMENT, NOISE, OBSTACLES TO NESTING

This threat is not yet applicable to Surinamese nesting beaches, as there is currently very little development along the nesting beaches, and the majority of nesting areas are only easily accessible by boat. However, a new port development has been approved for construction within a significant stretch of the Suriname River, from the mouth of the estuary to the Paranam area in the district Para (Figure 8). Potential impacts include light pollution at nesting grounds. Supporting nature-based solutions and regulatory guidelines are currently being assessed and considered to support sustainable, nature-positive transport infrastructure while protecting Suriname's ecosystems.


Figure 8. Expansion of port infrastructure projects along the Suriname River, marked in yellow.

### 4.2.5 DISEASE AND PREDATION

Marine turtles harbor a variety of parasites and commensals, both external and internal (summarized by Mashkour *et al*., 2020), but there are no data available regarding how these organisms may contribute to sea turtle disease in Suriname. According to Reichart & Fretey (1993), "turtles of all species nesting in Suriname appear healthy and fit, but admittedly, there has never been a study on the subject". This area of research remains a gap in our understanding of sea turtle biology in Suriname.

Reports spanning several decades (c.f. Reichart & Fretey, 1993) document predation of adult females on nesting beaches by jaguars (*Panthera onca*), and by feral and domestic dogs that are reported to harass nesting turtles, often causing them to abandon nesting attempts. Management measures are in place at nesting beaches to limit dog impacts, including requesting villagers and fishermen to restrain their animals, removing feral dogs, and, in severe cases, euthanizing dogs that actively harass turtles.

Eggs and hatchling turtles are also highly vulnerable to both natural and introduced predators, with ghost crabs (*Ocypode quadrata*) posing the greatest threat. Other predators include raccoons (*Procyon cancrivorous*), black vultures (*Coreys atratus*) and mole crickets (*Gryllotalpa* and *Scapteriscus* spp.) (summarized by Reichart & Fretey, 1993). Quantitative data is unavailable.

### 4.2.6 INVASIVE SPECIES

In addition to feral dogs (see 4.2.5 Disease and Predation), sargassum blooms, while native to the Atlantic, have increasingly behaved like an "invasive-like" phenomenon in Suriname and the Wider Caribbean, creating dense mats along coastal and nearshore waters. These accumulations can smother nesting beaches, potentially reducing available sandy habitat for egg-laying and sometimes covering nests which, in turn, can increase sand temperatures and lead to lower hatching success. Hatchlings attempting to reach the sea may become trapped or delayed, increasing vulnerability to predation and thermal stress (Maurer *et al.*, 2021b; 2022).

In nearshore waters, thick Sargassum mats can alter turtle foraging behavior, potentially limiting access to feeding areas or changing prey availability. Additionally, decomposing Sargassum releases nutrients and can reduce oxygen levels in shallow waters, indirectly impacting juvenile turtles. While Sargassum is a natural component of marine ecosystems, the scale and persistence of recent blooms in Suriname present a growing conservation concern for nesting and juvenile sea turtles. The details of effective remedial action have yet to be defined.

### 4.2.7 POLLUTION: BEACH LITTER, INADEQUATE WASTE MANAGEMENT

Pollution is potentially a major threat to Suriname's sea turtles, affecting both nesting beaches and marine habitats. Key pollutants include oil spills and plastic debris, originating from land-based sources as well as from vessels that violate environmental regulations. Death to marine organisms as a result of ingestion or entanglement is both widespread and has been well-known for decades (e.g., O'Hara *et al*., 1986; Laist, 1987).

With major hydrocarbon discoveries recently reported in the Guiana Basin (Wong & van Geuns, 2021) – and the Wider Caribbean region in general being an ecologically important and unique area that is highly vulnerable to the impacts of oil spills – "effective preparedness and response to spills are critical to minimizing damage to the region's marine and coastal ecosystems, as well as safeguarding the health and economic wellbeing of its communities" (Hernandez, 2024). A national oil spill contingency plan has been developed; however, it is not yet approved (ITOPF, 2015).

Ghost gear and discarded fishing nets are also a problem, contributing to entanglement and bycatch (e.g., see reviews by Gilman *et al*., 2021; Odhiambo *et al*., 2025), widespread regional destruction of benthic habitat, deterioration of fish stocks (including when fishers abandon or intentionally discard their gear to evade capture related to IUU fishing activity), significant negative economic and social costs, and severe threat to the safety of maritime navigation (summarized by Yang, 2023). Marine plastic litter costs marine ecosystems approximately USD 13 billion per year in environmental damage (UNEP, 2014), and presumably a much higher cost in today's dollar.

### 4.2.8 SAND MINING

Historically, sand mining posed a significant threat to sea turtle nesting beaches in Suriname, particularly at Matapica–Braamspunt, where beach length was reduced from 7 km in 2015 to just 700 m by 2020 (Wijntuin, 2021). Research into coastal dynamics, including mudflats and sand ridges, highlighted how sand mining disrupted natural erosion and accretion processes, negatively affecting habitat availability (Anthony *et al*., 2019; Gersie *et al*., 2016). Through enforcement, advocacy, and conservation diplomacy, sand mining on nesting beaches has been significantly reduced, and no longer represents an active threat to sea turtle nesting in Suriname.

### 4.2.9 TARGETED TAKE (TURTLES/EGGS)

Poaching of sea turtle eggs, driven by organized crime, has emerged as a significant threat to the long-term survival of Suriname's sea turtle populations, with thousands of eggs illegally harvested and sold for consumption. Intensified enforcement efforts, however, have yielded positive results. For example, the 2023 apprehension of five poachers led to a significant reduction in poaching activity later that season. This trend continued into 2024, with activity declining further due to the increased presence of game wardens at Braamspunt. Although poaching has also decreased in Galibi, the area's extensive beaches are more difficult to monitor consistently, allowing some level of illegal activity to persist. Despite this challenge, enforcement measures resulted in the confiscation of 302 poached eggs in 2024.

Table 3. Summary of threats impacting Suriname's nesting sea turtles, by species.

| Threat | *Chelonia mydas* | *Dermochelys coriacea* | *Eretmochelys imbricata* | *Lepidochelys olivacea* |
|---|---|---|---|---|
| Beach stabilization | | | | |
| Beach armoring | | | | |
| Beach lighting | | | | |
| Climate change | x | x | x | x |
| Coastal development | x | x | | x |
| Diseases, predation | x | x | x | x |
| Invasive species | x | x | x | x |
| Pollution, entaglement | x | x | x | x |
| Sand mining | | | | |
| Targeted take (turtles/eggs) | x | x | x | x |

## 4.3 THREATS TO SEA TURTLES AND MARINE HABITATS

### 4.3.1 ANCHORING AND DREDGING

Anchoring and dredging, at scales large and small, directly affect benthic habitats that can be critical to local assemblages of sea turtles. According to Davis *et al*. (2016), "it has become clear that anchor scour poses a significant and increasing threat to vulnerable yet valuable marine environments about which our knowledge is incomplete." Similarly, dredging can cause direct and indirect negative impacts to benthic habitats and presents a risk of injury or mortality to marine turtles via entrainment, vessel strike or the effects of noise and vibration (summarized by Whittock *et al*., 2017; Ramirez *et al*., 2017).

Fortunately, anchoring and dredging are at present not considered a major threat to Suriname's sea turtles. Dredging companies operating near nesting beaches are required to apply mitigation measures to reduce impacts on sea turtles. Awareness-raising sessions, facilitated by NCD, WWF-Guianas, and/or GHFS, are also provided to the on-board crew upon request by dredging companies. These sessions focus on marine biodiversity and the purpose and value of proposed and applied mitigation measures.

### 4.3.2 DISEASE AND PREDATION

While natural predation will no doubt occur on land and at-sea, disease and predation are, at present, not considered major threats to Suriname's sea turtle populations in their marine environment. According to Reichart & Fretey (1993), "birds, sharks, catfish, and a number of other species of fish are a threat to the small hatchlings" once they enter the sea. Predator interactions at sea represent an opportunity for future research. Similarly, no information is available on the nature or extent of disease among sea turtles in Suriname's waters.

### 4.3.3 FISHERIES INTERACTIONS: BY-CATCH

Fisheries are one of the leading causes of sea turtle mortality both in Suriname and at a regional scale (Wallace *et al*., 2013b; Eckert & Hart, 2021), with by-catch posing the most significant threat. Sea turtles, particularly leatherbacks, are vulnerable to entanglement in fishing gear, ingestion of hooks, and accidental capture in nets. These impacts are especially harmful to gravid females that interact with fisheries along the Suriname coast as they travel to their nesting beaches. The loss of nesting females disproportionately reduces the reproductive capacity of

turtle populations by removing those individuals with the highest reproductive value in the population and which are also the most difficult to replace (Bräutigam & Eckert, 2006; Barragan *et al*., 2022).

The intensification of fisheries in Suriname, driven by economic pressures, has exacerbated turtle by-catch in both artisanal and industrial fleets. Monitoring efforts between 2015-2016 estimated that more than 4,000 sea turtles are caught annually in Suriname's artisanal fleet alone (Sys, 2019). Industrial shrimp trawling also poses risks, though the now mandatory use of Turtle Excluder Devices (TEDs) has reduced turtle mortality by up to 97% in this sector (NOAA, 2025). Recognizing that TEDs were originally designed for shrimp trawlers, their implementation in the groundfish trawl fleet remains a challenge due to different gear types and fishing methods. Recent efforts to adapt TEDs for groundfish trawlers, supported by partnerships between Suriname's Fisheries Department, NOAA, WWF, and international projects, have shown promising results, but have yet to be adopted and made mandatory for this fishing sector.

Overall, while Suriname has made progress in addressing by-catch through TEDs and monitoring programs, stronger enforcement, wider application of by-catch reduction technologies, and improved data collection are urgently needed to secure the future of sea turtles in the region.

### 4.3.4 NEARSHORE DEVELOPMENT: MARINAS, ENERGY INFRASTRUCTURE

Efforts are actively underway to modernize Suriname's national grid, driven by the government's Electricity Sector Plan (ESP) and supported by international partners like the Caribbean Development Bank (CDB), the Inter-American Development Bank (IDB), and the Islamic Development Bank (IsDB) (Castalia, 2025). These efforts aim to increase reliability, reduce outages, and strengthen service provision across the country. In addition to the construction of new substations, expansion of renewable energy initiatives, including microgrids for more remote villages and a larger solar power project, have also been integrated into the utility expansion initiative. WWF-Guianas is concurrently implementing a complementary project (*Greening Transportation Infrastructure Development Project*) to assess potential impacts while integrating ecological considerations into these infrastructure expansion developments.

### 4.3.5 OIL EXPLORATION, PRODUCTION REFINING, TRANSPORT

Suriname is rapidly expanding its offshore oil exploration efforts, with new exploration contracts, seismic surveys, and drilling projects underway. While these developments present economic opportunities, they also carry significant risks for sea turtles. For example, seismic blasts may interfere with navigation and migration (Nelms *et al*., 2016), drilling discharges can degrade coastal and offshore habitats, and oil spills could impact both nesting beaches and marine ecosystems Although these threats have not yet materialized, they represent potentially high-impact risks, highlighting the need for proactive mitigation measures to safeguard sea turtle populations.

In a positive move, Suriname recently established the Ministry of Oil, Gas & Environment, following the publication of State Decree S.B. 2025 No. 124 on 22 October 2025. The decree places oil and gas under a dedicated ministry assigned with developing national policy for the exploration, production and management of oil and gas reserves, while ensuring that development aligns with environmental protection and climate goals. The Ministry will take responsibility for the national oil spill response plan in collaboration with the Coordination Center for Disaster Management and design a sustainable local content policy to foster entrepreneurship and employment (Güneş, 2025).

### 4.3.6 POLLUTION: MARINE DEBRIS, AGRICULTURAL/INDUSTRIAL RUNOFF, SEWAGE

Marine debris including ghost gear, runoff, and sewage all have the potential to degrade the marine environment and impact turtles (injury, disease, mortality) through ingestion or entanglement, chemical contamination, and disease. Although problems related to marine pollution have not been fully investigated in Suriname, a study in French Guiana (Emmonot *et al*., 2023) investigated the stomach contents of 26 stranded turtles (13 green, 12 olive ridley and 1 leatherback) and found macroplastics (polyethylene, terephthalate, and polystyrene) in four juvenile green turtles. Microplastics (polypropylene, polyethylene, terephthalate, polystyrene, nylon, acrylates, polycarbonates) were found in six olive ridleys, four green turtles, and the leatherback turtle.

In a review of threats, Turny *et al*. (2022) identified the lack of regulations regarding disposal of fishing gear and an absence of responsible waste management as well as not enough demonstration of good conduct or custodianship by fishers at sea. The authors also reported that kilometers of discarded nets had been recorded by drone imagery within the Tijgerbank. Addressing these pollution sources through strengthened regulations, monitoring, and community engagement will be essential to ensure the long-term protection of marine turtles in the region.

### 4.3.7 OTHER

The Tijgerbank has become a focal point of concern for sea turtle conservation in Suriname due to its role as a place that provides shelter to boats, especially during storms and a safe place to undertake small boat repairs but also as a hub for illegal activities. Once a sandbank, it has transformed into a more permanent island with mangrove growth, which fishers now use to anchor and operate within in ways that undermine turtle protection measures. One major issue is that Tijgerbank lies adjacent to a designated no-fishing zone established to safeguard nesting turtles from March through July. Despite this seasonal closure, illegal fishing persists in the area, heightening the risk of sea turtle by-catch during the critical nesting season. The site also enables the poaching of turtle eggs, with eggs more easily transported by sea routes that are harder to monitor than overland transport, making enforcement and prosecution difficult. While the Coast Guard is tasked with patrolling this area, its limited resources and capacity hinder effective oversight.

Unregulated use of the area extends beyond national boundaries, as fishers use the Tijgerbank as a launch site to access French Guiana waters and fish illegally in restricted zones. This has strained relations, with French Guiana pressing Suriname for stronger enforcement. However, Suriname lacks the resources to respond adequately, while French Guiana with greater enforcement capacity has been slow to provide direct assistance. Overall, the use of Tijgerbank by fishers facilitates illegal fishing, egg poaching, and cross-border violations, posing a significant threat to sea turtles and creating tensions between industrial fisheries, indigenous communities, and neighboring states.

Table 4. Summary of threats impacting Suriname's sea turtles at-sea, by species.

| Threat | *Chelonia mydas* | *Dermochelys coriacea* | *Eretmochelys imbricata* | *Lepidochelys olivacea* |
|---|---|---|---|---|
| Anchoring, dredging | | | | |
| Disease, predation | | | | |
| Fisheries interactions | x | x | x | x |
| Loss of coral, seagrass | | | | |
| Nearshore development | | | | |
| Petroleum industry | x | x | x | x |
| Pollution, marine debris | x | x | x | x |
| Direct take of sea turtles | | | | |
| Watersports, boat strikes | | | | |
| Other | x | x | x | x |

# V MANAGEMENT AND PRIORITY ACTIONS

## 5.1 UPDATING SURINAME'S STRAP

Suriname's first Sea Turtle Recovery Action Plan (STRAP) (Reichart & Fretey, 1993), developed in partnership with WIDECAST, was long overdue for a review to ensure that current threats and conservation needs of Suriname's sea turtle populations were adequately reflected. Recognizing and building on this, the 2022 Regional Action Plan (RAP) for the Northwest Atlantic Leatherback Turtle (Barragan *et al*., 2022), a collaborative initiative between Suriname, French Guiana, Guyana, and Trinidad and Tobago, identified the revision of those countries' national STRAPs as a key priority to advance coordinated sea turtle conservation across the southern latitudes of the Wider Caribbean Region.

Also in response, WWF Netherlands, in partnership with Sea Turtle Conservation Bonaire secured funding through the regional project "Developing a Sea Turtle Recovery Action Plan (STRAP) for the Dutch Caribbean" to support the creation of a comprehensive STRAP manual tailored specifically for Suriname. This effort aims to develop a practical, action-oriented framework that ensures the long-term conservation and recovery of all sea turtle species found in Suriname, while empowering local communities and civil society stakeholders to take an active role in the process.

The first step in revising Suriname's STRAP involved reviewing and comparing the actions outlined in the 1993 plan with those proposed in the 2022 RAP, followed by targeted stakeholder engagement. Between November 2024 and February 2025, a series of virtual consultations and an online survey captured input from nine key institutions, including government ministries, conservation organizations, the private sector, and local communities. Following these online consultations a national workshop was held on 16–17 April 2025, in Paramaribo. Co-organized by WWF-Guianas, the Ministry of Land Policy and Forest Management (GBB), and the Ministry of Spatial Planning and Environment (ROM), this workshop brought together 43 participants from 21 organizations across Suriname (Annex 2).

The workshop provided a critical platform to:


• Review and assess the relevance of actions from the 1993 STRAP
• Evaluate current threats, challenges, and species-specific needs• Identify and prioritize strategic conservation actions for the next decade
• Discuss key actors responsible for implementation and governance

Designed to promote inclusive dialogue, knowledge sharing, and collaborative planning, this workshop represents a foundational step in developing a revitalized, locally-grounded STRAP.

## 5.2 A REVIEW OF IDENTIFIED SOLUTIONS AND PRIORITY ACTIONS TO SUPPORT THE RECOVERY OF SURINAME'S SEA TURTLE POPULATIONS

Addressing identified challenges and gaps in national sea turtle population recovery, solutions were formulated to target threats impacting the five species that inhabit Suriname's open and nearshore waters as well as those that nest on its beaches. These proposed solutions include both nesting and in-water populations of leatherbacks, greens, olive ridleys and, to a lesser extent, hawksbills, and prioritized nature-based solutions (IUCN, 2020).

### 5.2.1 NESTING POPULATIONS

Solutions related to issues affecting Suriname's sea turtle nesting populations center on capacity building, enhancing Suriname's protected areas network, increasing nesting success rates, supporting communities through alternative livelihoods, and strengthening policy and structural frameworks, including law enforcement.

More specifically to effectively protect sea turtle populations, a significant increase in operational funding is essential, allowing for the recruitment of additional personnel (rangers), from both local communities and the military, to conduct thorough patrols of nesting sites. Furthermore, establishing additional checkpoints along beaches will enhance monitoring efforts while also deterring illegal activities. Embracing technology, such as drones, has the potential to significantly improve the efficiency and reach of beach patrols while adequate transportation is also critical to ensure that personnel can readily access and monitor more remote nesting areas.

Addressing the impact of a warming climate on nest temperatures and sea turtle hatchlings, as well as more frequent inundation of nesting beaches due to storms and sea level rise necessitates the development and

implementation of optimal hatchery practices. To facilitate rapid and effective policy development and implementation, collaboration with knowledge institutions, including university and independent research organizations that have practical experience with globally accepted best practice (cf. Phillott *et al*., 2021), is also important.

Enhancing Suriname's protected area network, including Multiple-Use Management Areas (MUMAs), is required to ensure that the health integrity of critical habitats is maintained, including the Tijgerbank which requires dedicated protection measures (for a review of best practice, Read & West, 2010, and Pomeroy *et al.*, 2005, may be helpful). At the same time, it was also acknowledged that Suriname's coastline is dynamic leading to changes in nesting locations and that additional measures, beyond strictly defined and delineated protected areas may be necessary to achieve conservation goals.

Engaging with local communities and community-based organizations is paramount for successful and sustainable sea turtle conservation. Before formalizing any conservation measures, open dialogue with these communities is necessary to understand their perspectives and concerns. Adopting a co-management approach with local stakeholders (cf. Kennett *et al*., 2004), including community-based organizations, and actively involving local residents in nesting beach monitoring efforts, coupled with fair compensation, can serve as a powerful deterrent against turtle egg poaching by providing alternative and sustainable income opportunities. At the same time, addressing existing economic inequalities, especially as it relates to the distribution of economic benefits derived from sea turtle research and tourism access which currently tends to remain concentrated within a small segment of the community. To foster greater community ownership, equity, social inclusion, and long-term commitment to and shared responsibility for sea turtle conservation and protection, exploring collaborations and supporting and enabling co-management is imperative (e.g., Sammy *et al*., 2008).

### 5.2.2 IN-WATER POPULATIONS

Solutions related to issues affecting in-water sea turtle populations focus on establishing financial sustainability, enhancing enforcement and protection, strengthening structural frameworks, advancing research and knowledge, addressing pollution and environmental impacts, and strategic conservation planning and advocacy.

Effective sea turtle conservation requires a strong commitment to financial sustainability through private sector engagement, prioritized government budgets, and the establishment of long-term financial streams and solutions (cf. WWF, 2025). Sustainable financing, however, must also be matched by robust enforcement and protection measures, requiring strengthened maritime and coastal patrols by adequately-equipped vessels and potentially through collaborations with the Ministry of Defense and the Maritime Police. Addressing personnel shortages and investing in monitoring technology (e.g., vessels, drones) along with mandating vessel monitoring system (VMS) devices on all fishing boats, are critical steps. Implementing the National Plan of Action on IUU Fishing (LVV, 2024) and ensuring that marine spatial planning precedes the establishment of marine protected areas are vital policy actions.

To enhance conservation strategies, more research is needed regarding the impacts of threats on sea turtle populations and inter-nesting behavior, complemented by investments in training and knowledge building, particularly within the fisheries sector. Addressing pollution through education-focused plastic waste reduction programs (useful reviews by Savoca *et al*., 2022, and Moon *et al*., 2023), the implementation of a single-use plastics ban (useful reviews by Xanthos & Walker, 2017, and Kibii, 2021), and a "producer pays" model, coupled with incentivized and enforced regulations for vessel-based marine pollution, is paramount. Continuing environmental vulnerability mapping and updating oil and gas contingency plans are also necessary.

Strategically, inter-nesting areas should be considered for marine protected area designation, including the Tijgerbank, recognizing that protected area designation should be data-driven. Species conservation action plans should be integrated into national legislation while government, non-government, and civil society organizations should collaboratively advocate to elevate nature conservation on national agendas and to foster political will.

## 5.3 SEA TURTLE CONSERVATION ACTIONS: INTEGRATING STRAP SOLUTIONS WITH THE 2022 NORTHWEST ATLANTIC LEATHERBACK REGIONAL ACTION PLAN

Conservation actions identified and prioritized by stakeholders and documented in this Sea Turtle Recovery Action Plan have considered existing threats to all species of nesting and in-water sea turtle populations. These conservation actions, however, do not exist in isolation and are further supported and complemented by the Northwest Atlantic Leatherback Regional Action Plan (RAP) (Barragan *et al*., 2022) which was endorsed by the Government of Suriname in early 2025. Adopting and adapting the RAP framework, these solutions are categorized within five main themes: 1. Policy and Legislation; 2. Conservation and Management of Species and Critical Habitats; 3. Community Engagement; 4. Scientific Data Needs; and 5. Capacity Building.

## 5.4 RATIONALE FOR A REVISED SURINAME STRAP

Four species of sea turtles – leatherbacks, greens, olive ridleys, and hawksbills – can be found foraging in and moving through Suriname's waters, while three of them, leatherbacks, greens and olive ridleys, frequently nest on along the country's sandy beaches. They have been a part of Suriname's natural history for thousands of years, long before the first humans populated the South American continent. Some of the most significant sea turtle beaches of the sprawling 90,000km-long South American coast are found along Suriname's coastline. These beaches have historically served as a haven for these prehistoric creatures. While their past numbers are unknown, contemporary research confirms that numbers have plummeted since precolonial times. Although sea turtles have been harvested by Surinamese indigenous peoples for more than 2,500 years, overharvesting, especially of eggs, as well as other pressures dating back to the colonial period to present day have led to sharp declines. Leatherback and green sea turtle nesting populations are now only three to five percent of what they once were (Eckert *et al*., 2020). Today, all species of sea turtles are at risk of extinction.

Between the 1950s and 1960s, some of the first efforts in the region were undertaken in Suriname to better protect sea turtles (and the nation's biodiversity in general) through legislation and regulations and to better understand sea turtle populations and the drivers leading to their declines, while also developing and implementing conservation interventions to address those threats. These efforts continue today, often in collaboration with national, regional, and international partners, drawing on local ecological knowledge, on-the-ground data collection, and in-depth life history and population dynamics research. Marine protected areas and multiple use areas serve as an additional tool to help safeguard nesting and at-sea populations. More recently, interventions to address threats to marine biodiversity through IUU fishing and unsustainable levels of bycatch have been implemented, guided by fisheries management plans.

Despite all of these efforts, however, Suriname's sea turtles continue to be at-risk, with leatherbacks and olive ridleys exhibiting steep declines in recent years. In 1993, Suriname's first Sea Turtle Recovery Action Plan was developed, followed by a sub-regional action plan in 2022, specifically focused on nesting, foraging, and migrating leatherbacks. This STRAP represents renewed focus on a civil-society-driven, grassroots, public-private sector collaborative effort to support and enable the recovery of Suriname's sea turtles, addressing long-standing and emerging threats to their survival, supporting sustainable alternative livelihoods, and empowering communities as stewards of their natural heritage.

## 5.5 GOAL AND OBJECTIVES

### 5.5.1 GOAL

The goal of Suriname's sea turtle conservation programme through the implementation of this STRAP is to achieve the long-term viability of Suriname's at-sea and nesting sea turtle populations, adopting an evidence-based, future-proofed, inclusive approach, recognizing both indigenous rights as well as national and international commitments to biodiversity conservation.

### 5.5.2 OBJECTIVES

Key objectives of this ten-year STRAP (2026-2035) are the following and apply to all four species of sea turtle occurring on Suriname's shores and nesting beaches (see Section III):

1. By 2035, increase the number of nests laid per year by 10% through protection of nesting beaching and the establishment and management in-sand and artificial hatcheries.
2. By 2035, increase the number of leatherback nests laid per year to 2020 levels by reducing turtle-fisheries interactions, and especially by-catch, specifically by:
   a. Establishing a comprehensive marine park network, recognizing and addressing high turtle-fisheries interaction areas.
   b. Declaring and enforcing a fisheries-free Tijgerbank.
   c. Establishing an annual close season for coastal fisheries, over a period of two and a half months.
   d. Reducing coastal fisheries licences and increasing fisheries regulations.
   e. Improving participatory, evidence-based decision-making through comprehensive fisheries and sea turtle data collection.
3. Through 2035, achieve a population increase by a 5% year-over-year increase in successful nesting activity (=number of egg clutches deposited) and a 1% year-over-year increase in successful hatchling emergence.
4. By 2035, achieve stability of nesting and foraging populations for all four species of sea turtles using Suriname's waters and beaches, based on the established 2023 baseline.

## 5.6 PRIORITIES

Suriname STRAP priority actions reflect interventions identified within the sub-regional RAP as well as emerging issues identified through stakeholder consultation and verification. Actions are categorized within five main themes: 1. Policy and Legislation; 2. Conservation and Management of Species and Critical Habitats; 3. Community Engagement; 4. Scientific Data Needs; and 5. Capacity Building. In many cases, best practice links are provided in relevant paragraphs under Section 5.2.

### 5.6.1 PRIORITY ACTION 1. POLICY AND LEGISLATION

Sea turtle conservation in Suriname is governed and guided by national legal frameworks and multilateral environmental agreements. Legislation, however, is outdated, with relevant laws enacted in the 1950s and 1960s when national contexts were different. Since then, new threats – as well as new opportunities – have emerged. Furthermore, as government administrations have changed, so too have Ministries and Departments, though these changes are not always reflected within Suriname's structural frameworks, creating confusion regarding roles and responsibilities and the extent of enforcement abilities.

Stakeholders have recognized these constraints and contradictions and identified tangible solution landscapes, as follows:

**Objective 1.1 Strengthening the legal and policy framework: To establish and update a robust and comprehensive legal framework that provides the necessary authority and guidance for effective sea turtle conservation and enforcement, in alignment with national and international commitments.**

| | |
|---|---|
| 1.1.1 | Conduct a gap analysis between existing legal tools and the implementation of mitigation measures identified in the Regional Action Plan. |
| 1.1.2 | Develop legal mechanism that facilitate cross-border collaboration, including an enforcement strategy to manage shared marine resources, with a focus on aligning patrol efforts across territorial waters. |
| 1.1.3 | Ensure that legislation supports the implementation of Suriname's Fisheries Management Plan. |
| 1.1.4 | Advocate for a ban on single-use plastics in Suriname to reduce plastic waste. |

1.1.5 Set appropriate regulations and fines according to the true cost of non-compliance.

1.1.6 Encourage a culture of prosecution designed to ensure that those benefiting the most from rule-breaking are punished.

Objective 1.2. Enhancing enforcement and surveillance: To increase the presence and capacity for monitoring, control, and surveillance (MCS) in critical marine and coastal habitats, thereby deterring illegal activities and helping to ensure compliance with conservation laws and regulations.

1.2.1 Set the appropriate conditions for increased enforcement of policies and regulations pertinent to the conservation of sea turtles.

1.2.2 Increase patrols in closed areas and develop and implement other protected areas, especially at and proximal to key nesting sites.

1.2.3 Establish multi-stakeholder patrol teams to enhance coordination and surveillance coverage.

1.2.4 Extend patrol durations to fully encompass the entire turtle breeding season.

1.2.5 Deploy drone and real-time satellite imaging technology to monitor beaches, the nearshore, and offshore and extend surveillance reach to secure protection of sea turtles.

1.2.6 Increase the frequency and consistency of patrols to establish a stronger deterrent against poaching activities.

1.2.7 Establish 24-hour surveillance of up to 2km of Baboensanti Beach, year-round.

1.2.8 Regulate and limit use of the mooring site near Tijgerbank no-fishing zone to restrict unauthorized access to turtle nesting areas.

1.2.9 Continue to ensure all shrimp trawlers are equipped with Turtle Excluder Devices and comply with fisheries regulations.

1.2.10 Implement interventions outlined in the 2024 National Plan of Action on IUU Fishing.

Objective 1.3. Building partnerships and capacity: To foster a collaborative network of local, national, and international partners and to build local capacity for long-term, sustainable sea turtle conservation.

1.3.1 Work with the IAC Secretariat to facilitate outreach to non-parties.

1.3.2 Promote the organization of a sub-group within the SPAW Protocol's Species Working Group specifically to advance RAP recommendations.

1.3.3 Employ and train local community members as rangers to create sustainable livelihoods and reduce reliance on poaching.

1.3.4 Build partnerships with local communities, research agencies, and stakeholders to increase presence at Tijgerbank, Galibi Nature Reserve, and other No Fishing Zones.

1.3.5 Partner with French Guiana to enhance monitoring and enforcement at the Tijgerbank mooring site and surrounding no-take zones, leveraging their patrol capacity and shared interest in preventing illegal fishing.

1.3.6 Leverage resolutions and reporting requirements regarding by-catch and IUU fishing through the IAC.

### 5.6.2 PRIORITY ACTION 2. PROTECTION AND MANAGEMENT OF SPECIES AND CRITICAL HABITATS

Sea turtles are a vital part of marine and coastal ecosystems, playing a crucial role in maintaining the health and balance of their environments. At the same time, these habitats – from sandy beaches where they nest, to nearshore waters where they forage, to deeper oceanic waters through which they migrate – also represent areas that are critical to human wellbeing and livelihoods; for example, nearly 90% of Suriname's population lives within 100 kilometers of the coastline. Coastal and marine resource use and a high concentration of development pressure on Suriname's coastline, exacerbated by the impacts of a changing climate, represent some of the greatest threats to the long-term survival of the country's sea turtle populations. Ensuring the future of Suriname's sea turtle species requires comprehensive, integrated, and future-forward strategies, based on sound science as well as the

precautionary principle, while at the same time recognizing the undeniable importance of healthy and resilient coastal and marine habitats to communities and to Suriname's economy.

Activities identified to address species and habitat protection and management to support sea turtle conservation in Suriname include:

| Objective 2.1 Habitat and ecosystem protection: To secure critical sea turtle habitats and mitigate threats from human activities and environmental changes, ensuring the long-term viability of nesting, foraging, and migratory areas. | |
|---|---|
| 2.1.1 | Build regional guidelines for the development of sea turtle beach management plans with conflict-free management actions. |
| 2.1.2 | Engage resource managers to account for turtle nesting habitat viability when approving proposals to mine sand, fortify coastlines, and other coastal development activities potentially adverse to sea turtle survival (e.g., see Choi & Eckert, 2009). |
| 2.1.3 | Advocate for retaining/enhancing resilience in coastal ecosystems, particularly as it relates to residential and tourism infrastructure development in an era of climate change and sea level rise (for a review, see Sutton-Grier *et al*., 2015). |
| 2.1.4 | Establish a series of nearshore protected areas based on data on habitat used by sea turtles during mating and nesting seasons. |
| 2.1.5 | Establish Tijgerbank as a Protected Area to protect nesting turtles and to prevent IUU fishing and by-catch. |
| 2.1.6 | Develop a methodology for demarcating and protecting marine boundaries of sea turtle habitats. |
| 2.1.7 | Continue to implement Suriname's Marine Spatial Planning Project, ensuring effective integration of conservation goals into spatial management efforts. |
| 2.1.8 | Develop partnerships to advance ocean clean-up campaigns that tackle marine pollution. |
| 2.1.9 | Enforce laws and regulations that define pollution, identify responsible parties, and ensure accountability for environmental harm. |
| 2.1.10 | Establish vessel inspection program at ports to prevent the discharge of gray water and bilge water into the marine environment. |
| 2.1.11 | Create and maintain egg hatcheries to address sea turtle nest loss, considering beach erosion. |

| Objective 2.2 Research, monitoring, and adaptive management: To gather and apply scientific data to inform conservation decisions, track the effectiveness of interventions, and promote adaptive management strategies at both national and international levels. | |
|---|---|
| 2.2.1 | Characterize distribution and density of fixed gear (IUU and legal) and sea turtles in shelf waters using aerial surveys and other methods. |
| 2.2.2 | Ensure continued work to monitor sea turtle populations and fisheries interactions in identified inter-nesting areas, foraging areas, and migratory pathways. |
| 2.2.3 | Develop a structured program for testing, adaptation, and adoption of modified gear in gillnet fisheries to avoid sea turtle by-catch in priority areas, nationally and regionally. |
| 2.2.4 | Identify sea turtle legal and IUU fishing by-catch "hotspots" in the ocean habitat (high seas). |
| 2.2.5 | Strengthen the conservation actions along identified migratory routes and foraging areas. |
| 2.2.6 | Develop an operational management plan, which may vary based on location/beach (specific to an area's needs). |
| 2.2.7 | Conduct research into the impact of seismic activity from the oil and gas sector on sea turtle migration patterns and nesting behavior. |
| 2.2.8 | Develop a capital and recurrent budget for each management site. |

**Objective 2.3 Capacity building, collaboration, and governance: To build human and institutional capacity, foster strategic partnerships, enable co-management approaches, and improve governance to ensure the long-term sustainability and effectiveness of sea turtle conservation.**

2.3.1 Promote the participation of agencies with surveillance capabilities, such as the coast guard or research institutes.

2.3.2 Form international collaboration and partnerships with organizations operating on the high seas.

2.3.3 Promote long-term engagement with key personnel (e.g., rangers) responsible for implementing management plans.

2.3.4 Enhance collaboration between stakeholders and fisherfolk to promote sustainability.

2.3.5 Determine best practices for enforcement agencies in protecting sea turtles in nearshore environments.

2.3.6 Design and implement a Capacity Building Strategy to strengthen the capability of enforcement agencies to protect sea turtles and their critical habitats.

### 5.6.3 PRIORITY ACTION 3: COMMUNITY ENGAGEMENT

Public awareness, understanding, opinion regarding sea turtles have strong and direct implications to the acceptance and adoption of conservation actions and coupled with direct community engagement, they foster societal support, promote pro-conservation behaviors, build local expertise for conservation efforts, and empower communities to actively participate in monitoring, restoration, protection, and sustainable resource use. These approaches translate scientific understanding into public action, driving the acceptance of sea turtle conservation policies and practices that are essential for long-term conservation success.

Activities identified to support community engagement, including outreach, as it relates to sea turtle conservation in Suriname include:

**Objective 3.1 Community engagement and partnerships: To build strong, collaborative relationships with local communities and key stakeholders, fostering a sense of shared ownership and responsibility for while enabling co-management approaches to sea turtle conservation.**

3.1.1 Establish a Regional Fund to facilitate and finance community engagement and awareness.

3.1.2 Empower local communities by building capacity to monitor compliance with conservation regulations, while establishing better lines of communication and reporting.

3.1.3 Promote partnerships with community leaders for successful (outreach) programing.

3.1.4 Provide forums for fishers to express doubts about conservation actions in a safe environment where they are heard in a genuine way.

3.1.5 Involve fishes directly in data collection, surveys, data interpretation, and research design.

3.1.6 Train local community members as certified tour guides, equipping them with knowledge on responsible sea turtle interactions, where only trained, badge-holding guides are permitted to accompany tourists during nesting events.

**Objective 3.2 Public education and awareness: To raise broad public awareness about the value of sea turtles and their habitats, and to promote behavioral changes that support conservation efforts.**

3.2.1 Launch media campaign using scientific data and research findings to raise awareness about the value of sea turtles, the threats they face, and conservation efforts benefiting Suriname's biodiversity and people.

3.2.2 Leverage social media platforms to amplify sea turtle conservation messages and foster broader public engagement.

3.2.3 Implement targeted outreach campaigns in local communities to raise awareness about the consequences of poaching and promoting alternative, sustainable livelihoods, adopting a whole-ecosystem approach.

3.2.4 Create an awareness campaign for fishers highlighting the dangers and impacts of ghost gear on the marine environment and sea turtles.

3.2.5 Design outreach materials that can be available in indigenous (and other inclusive) languages.

3.2.6 Prepare activities for annual events on special days.

3.2.7 Continue to integrate sea turtle conservation into school programs, empowering children to act as ambassadors who influence family and community attitudes and behaviors.

3.2.8 Develop successful experiential actions to engage diverse stakeholders, including youth.

3.2.9 Establish outreach and engagement activities beyond the nesting season.

**Objective 3.3 Policy and advocacy: To influence policy and decision-making at local, national, and international levels through evidence-based advocacy, leading to stronger protections for sea turtles and their habitats.**

3.3.1 Engage policymakers with evidence-based advocacy to highlight key conservation challenges and present practical, actionable strategies such as those described in this Recovery Action Plan.

3.3.2 Expand academic offerings within academic institutions to include the marine sciences and related fields.

**Objective 3.4 Monitoring, evaluation, and knowledge management: To ensure that conservation efforts are effective and adaptive by establishing a robust system for monitoring progress, evaluating outcomes, and sharing best practices.**

3.4.1 Establish baseline or reference values for use in future assessments designed to measure effectiveness of education activities and their ability to change conservation-related behavior.

3.4.2 Develop a regional education and outreach strategy based on the characteristics of Caribbean communities, with specific indicators and methods for measuring progress.

3.4.3 Promote international cultural and experiential exchanges among stakeholders in the region; for example, facilitated through the WIDECAST network.

### 5.6.4 PRIORITY ACTION 4: SCIENTIFIC DATA NEEDS

Adopting a data-driven approach to decision making is essential for addressing complex issues, including climate change and natural resource management. This methodology enables the development of more effective strategies to mitigate impacts and protect sea turtle species and the habitats on which they rely. By providing a deeper understanding of species and habitat limitations, this approach facilitates adaptive management, optimizes resource allocation, and supports the achievement of sustainability and species conservation goals through evidence-based policy and action.

Activities identified to enhance sea turtle scientific data needs to support evidence-based decision making in Suriname include:

**Objective 4.1 Data standardization, management, and technology: To establish a robust, collaborative, and accessible data infrastructure by developing standardized protocols, creating a regional data hub, and leveraging technology to improve data collection, storage, and exchange.**

4.1.1 Establish a national and regional framework for data collection and exchange to improve transparency and inform joint conservation action, monitoring, and enforcement strategies.

4.1.2 Create a network of Information Communications Technology (ICT) specialists across the region to work with scientists and support data management.

4.1.3 Form a regional scientific data group responsible for management and verification of information.

4.1.4 Secure funding for the construction and management of the data hub and for the creation of a data portal.

4.1.5 Develop software/platform to enable easy access for storage and recalling of data based on data gaps.

4.1.6 Develop consensual guidelines specific for the collection and management of legal and IUU by-catch data throughout the region.

4.1.7 Develop consensual guidelines for the collection and approach of other threats data.

4.1.8 Disseminate existing standardization tools known to follow international best practices.

4.1.9 Establish standardized protocols for data collection and recording, particularly as it relates to nesting beaches to ensure that counts are accurate and comparable between years.

4.1.10 Define recommendation and standardize protocols to collect tagging data.

4.1.11 Define recommendations and standardize protocols to collect data on turtles' health condition, including for stranded turtles.

4.1.12 Develop a system to regionally collate all publications for sharing with agencies responsible for implementation of this STRAP.

4.1.13 Ensure that Suriname's STRAP is implemented following the regional recommendations for data collection and field activities.

**Objective 4.2 Research, monitoring, and impact assessment: To generate high-quality, evidence-based knowledge on sea turtle populations, threats, and conservation effectiveness to guide strategic decision-making and adaptive management.**

4.2.1 Quantify the impact of egg poaching and its threat to the long-term viability of Suriname's sea turtle populations.

4.2.2 Implement a comprehensive national regional turtle legal and IUU by-catch characterization program to identify sea turtle by-catch "hotspots", including during non-nesting periods and priority opportunities for mitigation actions.

4.2.3 Assess potential impacts of long line fisheries on sea turtles in Suriname's waters.

4.2.4 Collect data (stock assessments, landing data, morphological analysis) to inform evidence-based decisions on fisheries quotas and closed seasons.

4.2.5 Improve knowledge of beach dynamics and its impacts on sea turtle nesting patterns.

4.2.6 Identify the population indicators for the minimum end recovery goals for sea turtle populations.

4.2.7 Prioritize collaborative sea turtle data collection and analysis of existing data.

4.2.8 Use established, emerging, and innovative technology and data collection methods to assist with sea turtle nesting and in-water data collection, including unmanned aircraft systems and underwater drones.

4.2.9 Collect robust sea turtle nesting data, including but not limited to number of nests, number of successful nests, and hatchling emergence data.

4.2.10 Investigate impact of life history traits on conservation priorities.

4.2.11 Conduct climate impact research to assess the effects of climate change on marine ecosystems, focusing on sea turtle migration, nesting patterns, and food availability.

4.2.12 Conduct studies on the use of the Tijgerbank by fishers and their impact on nesting and at-sea populations.

4.2.13 Conduct studies to determine the most effective means to reduce the impact that fishers using Tijgerbank have on sea turtle populations.

4.2.14 Implement satellite tracking to monitor sea turtle nesting and migration, using data to guide the establishment of marine protected areas.

| Objective 4.3 Collaboration, capacity building, and resource mobilization: To foster effective partnerships and secure long-term resources, ensuring that conservation efforts are sustained, coordinated, and leverage existing expertise. | |
|---|---|
| 4.3.1 | Secure long-term funding to support continuous data collection and monitoring programs, ensuring sustained conservation efforts. |
| 4.3.2 | Strengthen cross-border collaboration and information sharing between Suriname, Guyana, and French Guiana to address IUU fishing and promote coordinated conservation efforts. |
| 4.3.3 | Leverage existing expertise and institutional knowledge to build on past successes (and learn from past failures) rather than duplicating efforts or starting anew. |
| 4.3.4 | Engage academic institutions to ensure conservation management decisions are grounded in research and evidence. |
| 4.3.5 | Organize a Data Science seminar series as an ongoing activity. |
| **Objective 4.4 Conservation action and threat mitigation: To directly address key threats to sea turtles by designing and implementing practical, on-the-ground mitigation strategies based on sound scientific evidence.** | |
| 4.4.1 | Design and pilot by-catch mitigation technologies, specifically for drift net and trawl fisheries to reduce sea turtle (and other non-target species) mortality. |

### 5.6.5 PRIORITY ACTION 5: CAPACITY BUILDING

Effective sea turtle conservation involves empowering communities, government agencies, and conservation organizations with the skills, knowledge, and resources needed to implement effective conservation strategies, including training in monitoring techniques, data collection, nest protection, community engagement, resource management, and sustainable financing, ultimately fostering local ownership and long-term success.

Activities identified to build sea turtle conservation capacity in Suriname include:


**Objective 5.1 Organizational and operational capacity building: To enhance the institutional and operational capabilities of conservation agencies and their partners, enabling more effective and widespread conservation actions.**

5.1.1 Undertake a needs assessment of STRAP implementing agencies and partners to strengthen conservation efforts.

5.1.2 Increase operational capacity by upgrading field infrastructure (e.g. ranger stations), acquiring additional vehicles and vessels to support faster, more flexible, and wider patrol coverage, including across multiple-use management areas, and securing monitoring equipment (e.g., drones, field gear).

5.1.3 Expand ranger staffing, increase the number of checkpoints, and establish additional outposts to maximize field presence.

5.1.4 Empower local communities by building capacity to monitor compliance with conservation regulations, while establishing better lines of communication and reporting

**Objective 5.2 Financial resource mobilization: To secure and manage the sustained financial resources necessary to ensure the long-term viability and success of all conservation programs.**

5.2.1 Secure increased and sustained budget allocations to cover essential operational costs, staff salaries, staff training, and resource maintenance. (See also Objective 3.1.)

**Objective 5.3 Community and livelihoods development: To foster strong, trust-based relationships with local communities by supporting sustainable livelihoods and promoting shared stewardship for sea turtle conservation.**

5.3.1 Strengthen sustainable alternative livelihood programs that extend beyond the nesting season, ensuring year-round income stability for communities.

5.3.2 Foster strong, trust-based relationships with local communities to promote shared stewardship of nesting areas and the protection of sea turtle populations.

# VI IMPLEMENTING SURINAME'S STRAP

Implementation of this Sea Turtle Recovery Action Plan (STRAP) will require a collaborative and adaptive approach, involving stakeholders both in high level management and oversight as well as within tangible on-the-ground conservation action. Conservation success should be based on monitoring and assessment of priority action indicators (Annex 3), including meeting targets, milestones, and key performance indicators (Annex 4). Monitoring is directly embedded within the STRAP's framework.

As a 10-year plan, Suriname's updated STRAP allows for both short-term and long-term conservation considerations including potential changes in government administrations as well as projected impacts of the climate crisis. The implementation schedule (Annex 5) is meant to be iterative, with progress assessed annually and amendments made as required based on institutional, community-based, and national contexts, with the ultimate objective of ensuring the long-term viability of Suriname's nesting, foraging, and migratory sea turtle populations.

## 6.1 GOVERNANCE

Implementation of the Suriname Sea Turtle Recovery Action Plan will be led by a multi-agency Steering Committee, supported by multi-agency Technical Advisory Group (Figure 9).

### 6.1.1 GUIDING PRINCIPLES

Overarching principles guiding the STRAP governance structure include:

*Accountability*: There are clear roles and responsibilities, with well-defined mechanisms for reporting and oversight. Adaptive: The governance structure, as well as the Recovery Action Plan itself, allows for learning and adjustments, based on an iterative approach to monitoring and evaluating results.

*Adaptive structure:* The governance structure, as well as the Recovery Action Plan itself, allows for learning and


adjustments, based on an iterative approach to monitoring and evaluating results.

*Climate resilient*: All actions and strategies consider and mitigate the impacts of climate change, aiming to build resilience into sea turtle populations, their habitats, and the communities that interact with them.

*Equity*: The benefits and burdens of the Recovery Action Plan are fairly distributed.

*Inclusivity*: All relevant stakeholders (e.g., government agencies, local communities, nongovernmental organisations, civil society organisations, scientists, researchers, and the private sector) have the opportunity to participate meaningfully.

*Locally-owned*: Local communities and community-based organizations are empowered to take ownership of recovery efforts.

*Science-based*: Decisions are informed by the best available scientific data and expertise.

*Transparency*: Decision-making processes, financial allocations, and progress reports are openly accessible.

### 6.1.2 STEERING COMMITTEE

The Steering Committee provides strategic direction, approves major policies and plans, secures funding, resolves conflict, and ensures alignment with national, regional, and international conservation goals. Power should be vested to the Steering Committee by the Ministry of Land and Forest Management or the Ministry that have the most similarities based on the new government decisions, which should then be approved by the National Assembly.

The Steering Committee will be comprised of:

- LBB/ Nature Conservation Division (NCD)
- Department of Fisheries
- National Environmental Authority (NMA)
- Ministry of Oil, Gas and Environment

- Ministry of Public Works and Spatial Planning
- Coast Guard
- Galibi community
- Commewigne Community
- WWF-Guianas
- Green Heritage Fund Suriname
- Anton de Kom University of Suriname

The main role of the Steering Committee will be to:
- Approve the STRAP and significant updates
- Set broad strategic priorities and targets, within the context of Objectives herein described
- Oversee fundraising and resource allocation
- Review and approve annual work plans and budgets
- Develop and implement a monitoring, evaluation, and action learning (MEAL) framework to track progress, assess effectiveness, and enable adaptive management
- Mediate high-level disputes, following a clearly-defined conflict resolution mechanism
- Advocate for policy changes and enforcement

The Steering Committee should meet at least every two months, with ad hoc meetings as needed.

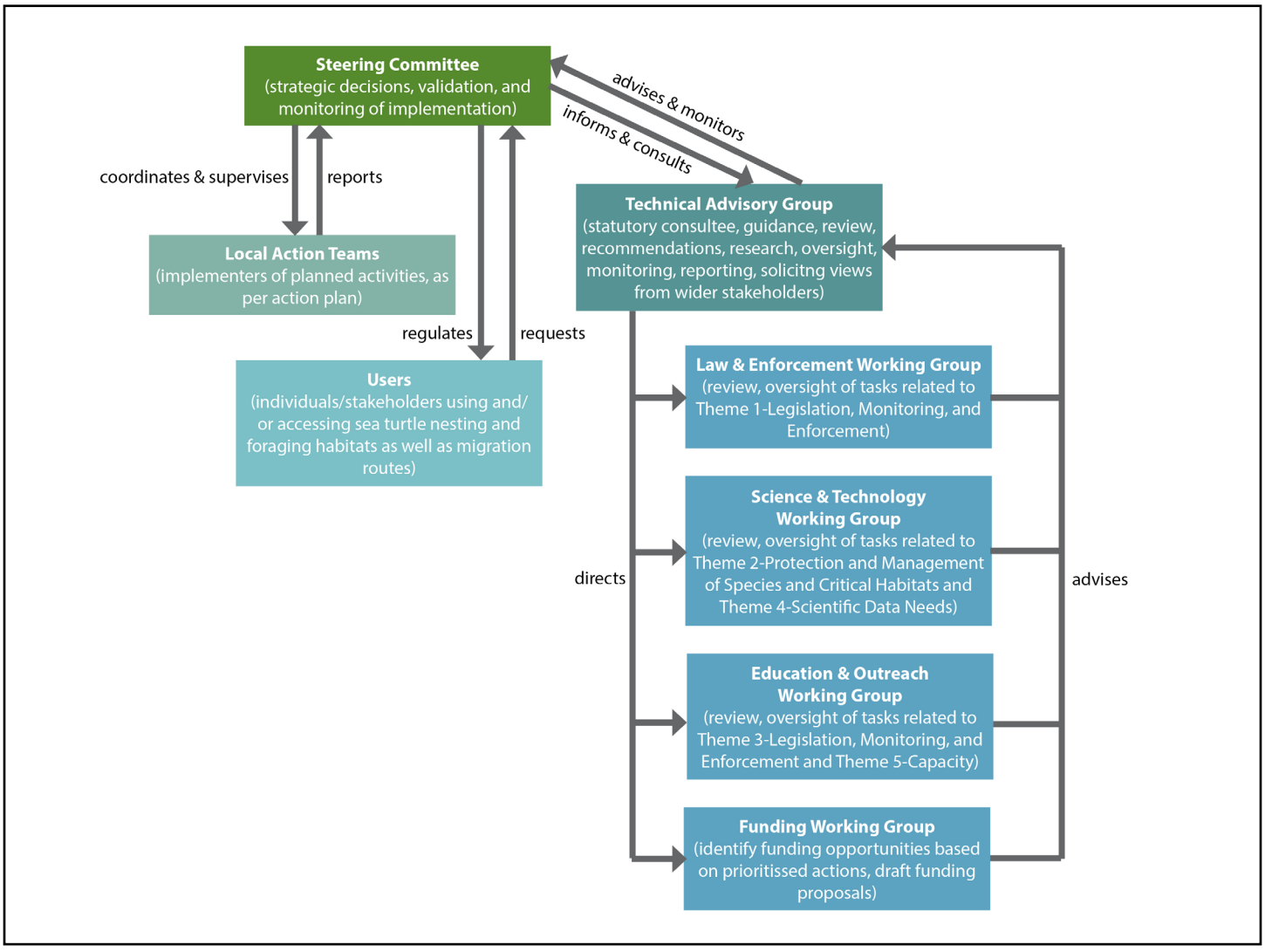


Figure 9. Suriname STRAP governance and management structure.

### 6.1.3 TECHNICAL ADVISORY GROUP

The Technical Advisory Group of the Suriname Sea Turtle Recovery Action Plan will be a multisectoral body formally tasked providing advice and oversight for completing the objectives and activities prescribed within the STRAP. Member agencies, including and in addition to those on the Steering Committee, will be drawn following the experience of the agencies and individuals involved in STRAP planning and development process and other critical agencies identified, namely:

- LBB/ Nature Conservation Division
- Department of Fisheries
- National Environmental Authority
- Geo-Spatial Intelligence Hub, ROM / Ministry of Oil, Gas and Environment (to be discussed/confirmed).
- MInistry of Education
- Civil Aviation Department
- Public Prosecutors Office (Environment Desk) (OM)
- Suriname Police Force
- Coast Guard
- Galibi community
- Braamspunt community
- Fishers Collectives
- WWF-Guianas
- Green Heritage Fund Suriname
- Sustainable Nature Conservation Alusiaka (STIDUNAL)
- Suriname Nature Conservation Foundation (STINASU)
- Stichting SOBA (SOBA Foundation)
- Amazon Conservation Team Suriname
- United Tour Guides Suriname
- Conservation International
- Anton de Kom University of Suriname
- Private sector representatives

The main responsibilities of the Technical Advisory Group will be to:

- Develop detailed annual work plans and budgets for review by the Steering Committee
- Advise and monitor the implementation of specific recovery actions
- Identify emerging issues and proposes adaptive management solutions
- Provide formal advice and recommendations to the Steering Committee
- Prepare progress reports for the Steering Committee
- Serve on Working Group/s
- Solicit support, investment, and other resources to assist in management

Through established Working Groups (Law & Enforcement, Science & Technology, Education & Awareness, Funding), the Technical Advisory Group will *inter alia*:

- Review and assess data related to sea turtle populations and threats (Science & Technology Working Group)
- Facilitate training and capacity building (Education & Outreach Working Group)
- Develop a communications strategy, outlining how information will flow between all levels of the governance structure, to the public, and to donors (Education & Outreach Working Group)
- Organize and support community engagement activities (Education & Outreach Working Group)
- Identify funding opportunities and develop funding applications (Funding Working Group)
- Ensure the STRAP is support by environmental laws and policies and advocate for new ones if necessary (Law & Enforcement Working Group)

The Technical Advisory Group should meet at least every two months, with ad hoc meetings as needed. Working Groups should meet at least monthly. Government agencies, and more specifically, the Nature Conservation Division, should be represented on all Working Groups.

### 6.1.4 LOCAL ACTION TEAMS

Local Action Teams directly implement recovery actions, engage local communities, monitor local conditions, and provide grassroots feedback, providing a tangible, participatory approach to STRAP implementation.

Local Action Teams may include:

- Local community members: Fisherfolk, youth, women's groups, indigenous community leaders, volunteers
- Local government representatives: Village council members, local enforcement
- Local NGO field staff including those working directly in communities
- Civil society organizations
- Tour operators and tour guides
- Boat owner organizations
- Trained volunteers

Key responsibilities of the Local Action Teams will *inter alia*:
• Conduct nesting beach patrols
• Implement anti-poaching measures
• Assist with data collection (e.g., nest counts, hatchling success)
• Participate in habitat restoration efforts (e.g., mangrove and coastal vegetation rewilding)
• Conduct local awareness campaigns and education workshops
• Identify local threats and opportunities for conservation
• Report to the Steering Committee on progress and challenges
• Facilitate local community meetings and discussions.

Local Action Team meetings will depend on activities being undertaken.

# VII FINANCING

The STRAP financing strategy should combine government funding, national and international support, private sector support and sustainable mechanisms to ensure long-term conservation (Annex 6). Core funding (e.g., staff time) is allocated primarily from the Nature Conservation Division and related Ministries, integrated whenever possible with national biodiversity and fisheries budgets.

International donors, including GEF, GCF, UNDP, and international conservation NGOs such as WWF and national NGOS, including GHFS, have provided grants in the past to support monitoring, habitat protection, and community engagement. These same donors along with others should be explored for additional financial support to implement the STRAP. National donors, including Suriname Conservation Foundation, may potentially serve as a funding option as all of Suriname's sea turtle nesting beaches are also protected areas.

Sustainable financing models should be expanded, drawing from existing national and successful regional initiatives such as ecotourism programs operating in Grande Riviere and Matura (Trinidad and Tobago) that use visitor fees at nesting beaches to incentivize local community-led protections (see Sammy *et al*., 2008; Sammy and Baptiste, 2008; Forestry Division-Government of the Republic of Trinidad and Tobago, Save our Sea Turtles-Tobago, and Nature Seekers, 2010).


# VIII REPORTING

Effective reporting services is a critical tool for transparency, informed decision-making, and adaptive and iterative management and implementation of this ten-year STRAP. Reporting on STRAP implementation progress will include:

*Action-specific progress briefs*: Conducted quarterly or biannually, highlighting achievements and milestones, as well as emerging issues and actions taken in response to the issues.

*Project-specific reports*: Completed and submitted based on the requirements outlined by donor agencies.

*Annual monitoring and evaluation reports*: Providing a comprehensive review of indicator trends, case studies, and budget allocation and utilization. These reports should also include a risk assessment review to enable long-term, mitigative decision-making.

*Mid-term evaluation report*: Completed in 2030, assessing the relevance, efficiency, and effectiveness of applied interventions, as well as emerging issues. The mid-term evaluation report should also include a detailed implementation plan for the remaining five years of the Recovery Action Plan.

*Terminal evaluation report*: Completed at end of the STRAP implementation period, through an inclusive stakeholder meeting, measuring overall impact, lessons learned and guidelines for Suriname's next (updated) STRAP.

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# ANNEX 1. Identification key for wider Caribbean sea turtles.

## Wider Caribbean Sea Turtles

Leatherback Turtle (*Dermochelys coriacea*)

Loggerhead Turtle (*Caretta caretta*)

Hawksbill Turtle (*Eretmochelys imbricata*)

Green Turtle (*Chelonia mydas*)

Kemp's Ridley Turtle (*Lepidochelys kempii*)

Olive Ridley Turtle (*Lepidochelys olivacea*)

WIDECAST
*Wider Caribbean Sea Turtle Conservation Network*

UNEP

CAR·SPAW·RAC

# Wider Caribbean Sea Turtles

## IDENTIFICATION KEY

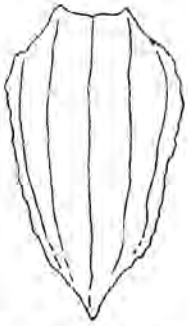
Flexible carapace with
- 5 distinct ridges
- no scutes

Bony carapace (shell) with
- no continuous ridges
- large scutes (shell plates)

**4 pair lateral scutes** (shown shaded)

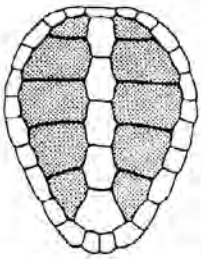
**5 (rarely 6) pair lateral scutes**

**6 or more pair lateral scutes (sometimes asymmetrical)**



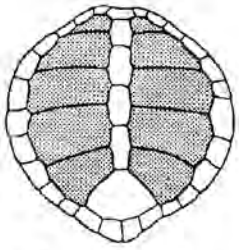
Carapace strongly tapered
Carapace leathery, flexible
Color dark gray or black with white or pale spots
Jaw deeply notched
To 500 kg ♀, "shell" to 180 cm

**Leatherback turtle, Trunk turtle**
*(Dermochelys coriacea)*



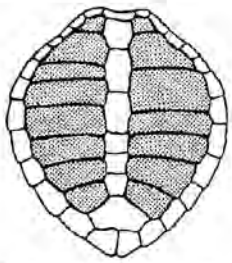
Carapace longer than wide
3 bridge scutes
No pores in bridge scutes
Head broad (to 25 cm)
Color red-brown to brown
To 200 kg, shell to 120 cm

**Loggerhead turtle**
*(Caretta caretta)*



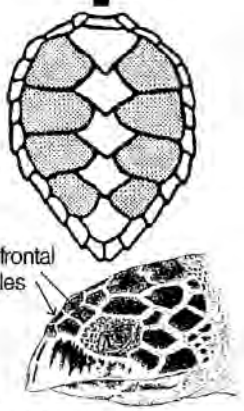
Carapace very round
4 bridge scutes with pores
Very rarely south of 16° N
Juvenile color charcoal gray
Adult color dark gray-green
To 45 kg, shell to 70 cm

**Kemp's Ridley turtle**
*(Lepidochelys kempii)*



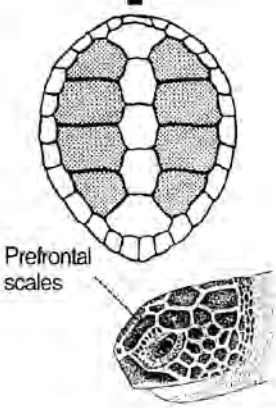
Carapace nearly circular
4 bridge scutes with pores
Very rarely north of 13° N
Juvenile color charcoal gray
Adult color dark gray-green
To 45 kg, shell to 70 cm

**Olive Ridley turtle**
*(Lepidochelys olivacea)*



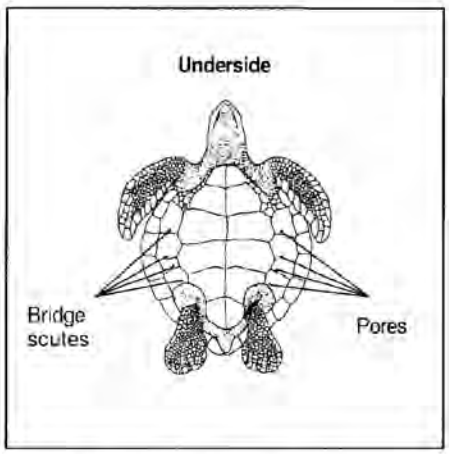

2 pair prefrontal scales
Over-lapping shell scutes
Pointed face, distinct over-bite
Juvenile color and pattern variable
Adult color orange, brown, yellow
To 85 kg, shell to 95 cm

**Hawksbill turtle**
*(Eretmochelys imbricata)*




1 pair prefrontal scales
No over-lapping shell scutes
Round face, serrated jaw
Juvenile color and pattern variable
Adult color dark gray green
To 230 kg, shell to 125 cm

**Green turtle**
*(Chelonia mydas)*




Photos by: Scott Eckert (WIDECAST); Jaime Peña (Gladys Porter Zoo); Caroline Rogers (US Geological Survey), and Projeto Tamar Brazil - Image Bank.
Diagnostic drawings by Tom McFarland

# ANNEX 2. WORKSHOP PARTICIPANTS: DEVELOPING A SEA TURTLE RECOVERY ACTION PLAN FOR SURINAME (16-17 APRIL 2025, PARAMARIBO, SURINAME)

| Name | Agency |
|---|---|
| Ajaline, N. | MAS |
| Alamyawari, S. | Galibi / STIDUNAL |
| Aloewanai, S. | STIDUNAL |
| Balsemhof, I. | Conservation International Suriname |
| Babel, M. | Natuurbeheer |
| Bechan, D. | UTGS |
| Bhikhi, S. | Maritime K.P.S |
| Bouman, H. | LBB / NB |
| Chishern, A. | Ministry ROM |
| De Dijn, B. | ESS |
| Debisarun, R. | LBB / NB |
| Delvoye, K. | Manomet |
| Gangaram Panday, P. | Ministry ROM |
| Gordijk, M. | World Wildlife Fund |
| Huisden, M. | SAFE |
| Jalimsigh, R. | Night Owl |
| Javinde, K. | NatuurBeheer (NCD) |
| Hoogdorp, J. | NatuurBeheer (NCD) |
| Jie, R. | Marine Defense |
| Jiawan, R. | CMACGM |
| Kartoikromo, R. | LBB / NB |
| Lala, R. | LBB |
| Langaman, H. | Galibi / STIDUNAL |
| Liems, M. | Unmanned Aero N.V. |
| Louiseville, N. | ROM |
| Muradin, T. | Marine / NL (Defense) |
| Vaseur, C. | Write 4 You Consultancy |
| Noersalim S. | VIDS |
| Pawirodihardjo, M. | NMA |
| Pollack | SAFE |
| Purperhart, R. | World Wildlife Fund (WWF) |
| Ramkhelawan, S. | Suriname Coast Guard |
| Ramsaroep, M. | Suriname Coast Guard |
| Ranoesetiko, C. | ROM |
| Sakimin, C. | Ministry ROM |
| Samsom, C. | Green Heritage Fund Suriname |
| Sanches, C. | TEEPSR |
| Sitaram, R. | OM |
| Soekhradj, R. | LVV Fisheries |
| Somaroe, K. | LBB / NB |
| Turny, A. | At. OSS.NV |
| Williams, D. | Ministry GBB / ODBDS |
| Wijntuin, S. | World Wildlife Fund |

# ANNEX 3. SURINAME STRAP PRIORITY ACTIONS AND INDICATORS

## 1. POLICY AND LEGISLATION

| Priority Action | Justification | Indicators | Notes |
|---|---|---|---|
| Objective 1.1 Strengthening the legal and policy framework | | | |
| Conduct a gap analysis between existing legal tools and the implementation of mitigation measures identified in the Regional Action Plan | Establishing the existing legal landscape will help natural resources managers identify what more may be required to ensure effective implementation of both the Regional Action Plan and the Suriname STRAP. | Report identifying existing legislation, regulations, legal tools/ mechanisms and projects | Action identified within the 2022 NW Atlantic Leatherback RAP (L1.1) |
| Develop legal mechanisms that facilitate cross-border collaboration, including enforcement strategy to manage shared marine resources, with a focus on aligning patrol efforts across territorial waters | Although trans-national agreements exist, national legislation needs to reflect what is required to ensure effective cross-border collaboration, identifying the parties involved and their scope and extent of their responsibilities. This is especially important for law enforcement and prosecution. | Workplan<br>Trilateral enforcement strategy<br>Regional Memorandum of Understanding | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (L1.2) |
| Ensure that legislation supports the implementation of Suriname's Fisheries Management Plan | Synergy between plans, policies and legislation is essential for guiding and enabling decision-making and management. | Report on existing legal tools and gaps | Action identified through stakeholder consultations |

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| Advocate for a ban on single-use plastics in Suriname to reduce plastic waste | Plastic is often mistaken for food by sea turtle, causing starvation and blockages. Plastics also degrade into microplastics that enter the food chain. Banning single-use plastics reduces the amount of this pervasive pollutant entering the marine environment, and is feasible with other alternatives now easily available. | Single-Use Plastics Prohibition Act | Action identified through stakeholder consultations |
| Set appropriate regulations and fines according to the true cost of non-compliance | Regulations and fines should deter non-compliance and repetitive infractions. | Report on existing legal tools and gaps<br>Proposal for adjustments to national laws and regulations<br>Report on and hot spot map of areas with greatest need for more consistent and effective law enforcement | Action identified within the 2022 NW Atlantic Leatherback RAP (L2.1) |
| Encourage a culture of prosecution designed to ensure that those benefiting the most from rule-breaking are punished | Regulations and fines should deter non-compliance, to limit repetitive infractions. | Best practice for law enforcement<br>Information/Learning exchanges<br>Actively engaged fisheries inspectorates<br>Prosecution reports and statistics | Action identified within the 2022 NW Atlantic Leatherback RAP (L2.3) |
| Objective 1.2 Enhancing enforcement and surveillance | | | |
| Set the appropriate conditions for increased enforcement of policies and regulations pertinent to the conservation of sea turtles | Effective enforcement requires human, technical, and financial resources. Investing in enforcement of sea turtle conservation related policies and regulations indicates that legislation guiding species and habitat conservation is just as important as any other piece of enforcement legislation. | Capacity assessment | Action identified within the 2022 NW Atlantic Leatherback RAP (L2.2) |

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| Increase patrols in closed areas and develop and implement other protected areas, especially at and proximal to key nesting sites | Visible presence of patrol/law enforcement officers often deters individuals from engaging in unlawful behavior. | Map of areas requiring patrols and/or enforcement of legislation<br>Monitoring and enforcement needs assessment<br>Patrol reports (national, joint) | Action identified within the 2022 NW Atlantic Leatherback RAP (L4.1) |
| Establish multi-stakeholder patrol teams to enhance coordination and surveillance coverage, and extend patrol durations to fully encompass the turtle breeding season | Agencies that are often in the field tend to be in the best position to see when laws are being broken and to report those cases to law enforcement agencies for follow-up. | Patrol reports | Action identified through stakeholder consultations |
| Extend patrol durations to fully encompass the entire turtle breeding season | Visible presence of patrol/law enforcement officers often deters individuals from engaging in unlawful behavior. | Patrol reports | Action identified through stakeholder consultations |
| Deploy drone and real-time satellite imaging technology to monitor beaches, the nearshore and offshore and extend surveillance reach to secure protection of sea turtles | Drones have the ability to enhance law enforcement by providing rapid, aerial intelligence for situation awareness while also allowing for more area to be covered/patrolled. | Map of existing restricted/close marine areas<br>Literature review<br>Stakeholder-informed zoning and management plans, including supporting regulations<br>Patrol reports | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (L4.3) |
| Increase the frequency and consistency of patrols to establish a stronger deterrent against poaching activities | Visible presence of patrol/law enforcement officers often deters individuals from engaging in unlawful behavior. | Patrol reports | Action identified through stakeholder consultations |
| Establish 24-hour surveillance of up to 2km of Baboensanti Beach, year-round | Although there are peak seasons for sea turtle nesting, nesting activity at Baboensanti Beach is significant and extensive enough to require year-round monitoring and surveillance. | Surveillance reports | Action identified through stakeholder consultations |

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| Regulate and limit use of the mooring site near the Tijgerbank no-fishing zone to restrict unauthorized access to turtle nesting areas | Increased mooring within and near the Tijgerbank no-fishing zone increases the potential for human-sea turtle interaction (including poaching). Limiting use of the area for non-essential purposes reduces that risk. | Review of access requirements and permits<br>Patrol reports<br>Protected Area ordinance | Action identified through stakeholder consultations |
| Continue to ensure all shrimp trawlers are equipped with Turtle Excluder Devices (TEDs) and comply with fisheries regulations | TEDs are legally required on all shrimp trawlers to reduce by-catch. | Turtle Excluder Device (TED) deployment records | Action identified through stakeholder consultations |
| Implement interventions outlined in the 2024 National Plan of Action on IUU Fishing | IUU fishing has been identified as one of the most significant impediments to sustainable fisheries management in Suriname. IUU fishing also contributes to the by-catch of vulnerable species, including sea turtles, only further limiting population recovery. The Government of Suriname-endorsed National Plan of Action clearly outlines how to address IUU fishing in territorial waters and is ready for implementation. | Minutes of national and regional meetings<br>Regional anti-IUU Plan of Action<br>Number of sea turtles affected by IUU reduced compared to baseline | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (L4.4) |
| Objective 1.3 Building partnerships and capacity | | | |
| Work with the IAC Secretariat to facilitate outreach to non-parties | The IAC provides the legal framework for regional cooperation to protect sea turtles, promoting and fostering sharing of scientific data and standardizing data collection, while considering socioeconomic and cultural factors, leading to more effective conservation outcomes. | IAC communications and outreach strategy/plan<br>Accession to IAC | Action identified within the 2022 NW Atlantic Leatherback RAP (L3.1) |

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| Promote the organization of a sub-group within the SPAW Protocol's Species Working Group specifically to advance RAP recommendations | The SPAW Species Working Group helps guide the formulation and implementation of programme activities for a range of species. Creating a sub-regional sub-group will enable more tailored approach to sea turtle conservation, while still operating within the effective and respected framework afforded by SPAW. | SPAW Leatherback Working Group minutes | Action identified within the 2022 NW Atlantic Leatherback RAP (L3.2) |
| Employ and train local community members as rangers to create sustainable livelihoods and reduce reliance on poaching | Training community members helps foster a sense of ownership and understanding, often leading to enhanced environmental stewardship. Direct employment of community members also provides important sources of sustainable/ secure income. | Training reports<br>Employment records | Action identified through stakeholder consultations |
| Build partnerships with local communities, research agencies, and stakeholders to increase presence at Tijgerbank, Galibi Nature Reserve, and other No Fishing Zone | Agencies that are often in the field tend to be in the best position to see when laws are being broken and to report those cases to law enforcement agencies for follow-up. | Memoranda of Understanding<br>Patrol reports | Action identified through stakeholder consultations |
| Partner with French Guiana to enhance monitoring and enforcement at the Tijgerbank mooring site and surrounding no-take zones, leveraging their patrol capacity and shared interest in preventing illegal fishing | French Guiana has a well-developed monitoring, surveillance, and enforcement programme. Formally cooperating with French law enforcement at Tijgerbank, an area bordering French Guiana and is already being patrolled with them will allow for more effective sharing of information, prosecution (when necessary), and deterrence. | Memoranda of Understanding<br>Patrol reports | Action identified through stakeholder consultations |

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| Leverage resolutions and reporting requirements regarding by-catch and IUU through the IAC | The IAC provides a legitimate and cooperative framework to protect endangered species, share best practices for reducing by-catch, conduct essential research and enforce IUU fishing regulations. By using the treaty, a unified regional approach can be established, with member countries holding each other to account. | Updated IAC resolution and reporting requirements | Action identified within the 2022 NW Atlantic Leatherback RAP (L4.2) |

# 2. PROTECTION AND MANAGEMENT OF SPECIES AND CRITICAL HABITATS

| Priority Action | Justification | Indicators | Notes |
|---|---|---|---|
| Objective 2.1 Habitat and ecosystem protection | | | |
| Build regional guidelines for the development of sea turtle beach management plans with conflict-free management actions | Regional guidelines can help facilitate consistent, integrated conservation efforts across different jurisdictions, leading to more effective protection of critical habitats, standardized threat mitigation, improved data collection and sharing and enhanced regional cooperation. | Guidelines for best practice for management planning | Action identified through stakeholder consultations<br><br>Action identified within the 2022 NW Atlantic Leatherback RAP (H1.1) |
| Engage resource managers to account for turtle nesting habitat viability when approving proposals to mine sand, fortify coastlines, and other coastal development activities potentially adverse to sea turtle survival | A holistic, sustainable approach to development and resource use requires considering short- and long-term impacts. With sea turtle nesting habitat already limited and at risk (including from climate change), reducing other pressures and ensuring that nesting habitat is maintained is essential for the long-term survival of the species. | Development proposal review briefs/comments on coastal development proposals<br><br>Regional beach management plan | Action identified within the 2022 NW Atlantic Leatherback RAP (H1.2) |
| Advocate for retaining/enhancing resilience in coastal ecosystems, particularly as it relates to residential and tourism infrastructure development in an era of climate change and sea level rise | Coastal ecosystems are the first line of defense against many of the impacts of climate change, including sea level rise and storm surge. Combined with increased tourism development pressure, sea turtle habitat is expected to become even more reduced/fragmented. To increase sea turtle survival, carrying capacity and climate change resilience, maintaining and/or restoring coastal vegetation and adopting nature-based solutions should be pursued. | Coastal vulnerability assessments<br><br>Nature-based solution plans for residential and tourism infrastructure<br><br>Rate of erosion or accretion along coastline | Action identified within the 2022 NW Atlantic Leatherback RAP (H1.4) |

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| Establish series of nearshore protected areas based on data on habitat used by sea turtles during mating and nesting seasons | Well-managed protected areas not only safeguard species and the habitats upon which they rely, but also improve local fisheries through fish population growth and spillover to surrounding areas, increase economic opportunities in tourism and conservation-related employment, and provide culture and educational benefits. Establishing protected areas should be evidence-based and consider alternative sustainable livelihoods to ensure that the area is able to achieve its goals. | Sea turtle habitat maps<br>Marine protected area maps<br>Resource use maps<br>Alternative sustainable livelihoods assessment | Action identified within the 2022 NW Atlantic Leatherback RAP (H2.1) |
| Establish Tijgerbank as a Protected Area to protect nesting turtles and to prevent IUU fishing and by-catch | Recognizing that the Tijgerbank is an important area for fishers, the establishment of a protected area (rather than a Nature Reserve) will enable multiple use. | Protected area ordinance<br>Tijgerbank protected area management plan, including zoning plan and boundary delineation | Action identified through stakeholder consultations |
| Develop a methodology for demarcating and protecting marine boundaries of sea turtle habitats | A standardized methodology for demarcating and protecting marine boundaries provides a replicable, evidence-based, justifiable (to stakeholders, including high level decision makers) approach to marine protected areas and marine/coastal management. | Marine surveys<br>Marine protected area regulations<br>Marine protected area management plans | Action identified within the 2022 NW Atlantic Leatherback RAP (H2.2) |
| Continue to implement Suriname's Marine Spatial Planning Project, ensuring effective integration of conservation goals into spatial management efforts | Marine spatial planning seeks to balance ecosystem use and protection, identifying where certain activities should occur to minimize conflict. This collaborative initiative is on-going. | Project reports | Action identified through stakeholder consultations |

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| Develop partnerships to advance ocean clean-up campaigns that tackle marine pollution | Ocean pollution causes widespread damage, harming and killing marine life through ingestion and entanglement, destroying habitats and oxygen-depleted zones, disrupting food chains and disrupting biodiversity. Ocean pollution also damages human health and livelihoods by contaminating seafood and disrupting fisheries and coastal communities. Ocean clean-up campaigns should focus on both addressing pollution along the coastline as well as within the ocean itself. | Clean-up campaign reports | Action identified through stakeholder consultations |
| Enforce laws and regulations that define pollution, identify responsible parties, and ensure accountability for environmental harm | While ocean clean-ups are important, the source of the problem also needs to be addressed. Laws and regulations related to disposal of waste and minimizing/preventing marine pollution is essential. | Enforcement reports<br>Prosecution reports | Action identified through stakeholder consultations |
| Establish a vessel inspection program at ports to prevent the discharge of gray water and bilge water into the marine environment | Discharge of gray water and bilge water by vessels at port directly contaminate nearshore waters. Inspection programs should focus on ensuring that vessels comply with policies and regulations, especially those related to discharge limits, proper on-board storage, and the use of approved treatment devices and separators. | Vessel inspection reports | Action identified through stakeholder consultations |

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| Create and maintain egg hatcheries to address sea turtle nest loss, considering beach erosion | One of Suriname's most critical leatherback turtle nesting sites, Braamspunt, is being lost due to a climate change-induced erosion from rising sea levels. At the same time, sea turtles continue to nest on this beach along with others that are facing a similar threat. Hatcheries provide one solution to loss of nests, but their effectiveness is dependent on adhering to strict management guidelines to maximize hatchling fitness and sex ratios. | Hatchery success rate<br>Hatchery maintenance reports | Action identified through stakeholder consultations |
| Objective 2.2 Research, monitoring, and adaptive management | | | |
| Characterize distribution and density of fixed gear (IUU and legal) and turtles in shelf waters using aerial surveys and other methods | Understanding the extent of IUU fishing in shelf waters is necessary to guide and prioritize actions identified within the Government of Suriname's National Plan of Action for IUU fishing. | Report on fishing effort<br>Map of by-catch "hot spots" at national and regional scales | Action identified within the 2022 NW Atlantic Leatherback RAP (H3.1) |
| Ensure continued work to monitor sea turtle populations and fisheries interactions in identified inter-nesting areas, foraging areas, and migratory pathways | Monitoring sea turtle populations and their interactions with fisheries is essential for understanding population health, identifying threats, guiding and prioritizing conservation strategies and helping to ensure population recovery. | Multi-stakeholder regional monitoring initiative agreement | Action identified within the 2022 NW Atlantic Leatherback RAP (H3.2) |
| Develop a structured program for testing, adaptation, and adoption of modified gear in gillnet fisheries to avoid sea turtle by-catch in priority areas, nationally and regionally | A structured approach to assessing alternate fishing gear as it relates to reducing/avoiding sea turtle by-catch ensures that decisions made are evidence-based and effective. | List of alternate fishing gear that reduce sea turtle by-catch<br>Reduction of sea turtle by-catch due to gillnets in "hot spots" | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (H3.3) |
| Identify sea turtle legal and IUU by-catch "hot spots" in the ocean habitat (high seas) | Identifying by-catch hotspots is essential to identify, guide, and prioritize mitigation measures and target audiences. | Reported by-catch maps<br>Sea turtle by-catch reduction plan | Action identified within the 2022 NW Atlantic Leatherback RAP (H4.1) |

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| Strengthen the conservation actions along identified migratory routes and foraging areas | Effective conservation action within migratory routes and foraging areas (which are often cross-country/boundary) is essential for maintaining ecosystem health, protecting sea turtles across extensive areas from human-caused threats (e.g., pollution, by-catch, vessel strikes) and protecting essential foraging habitats – all of which are required for sea turtle recovery and survival. | Memoranda of Understanding | Action identified within the 2022 NW Atlantic Leatherback RAP (H4.3) |
| Develop an operational management plan, which may vary based on location/beach (specific to an area's needs) | Operational management plans should be tailored to the specific needs of the site to ensure that threats are most effectively addressed within the context of the community, the species, and the species' habitat requirements. | Operational management plans | Action identified within the 2022 NW Atlantic Leatherback RAP (H6.3) |
| Conduct research into the impact of seismic activity from the oil and gas sector on sea turtle migration patterns and nesting behavior | Seismic surveys are known to generate intense underwater sound that can cause behavioral changes, injury, displacement, and disrupt sea turtle migration and nesting. Not enough data, however, has been collected within Suriname's waters to identify mitigative actions or to guide related policy and legislation. | Oil and gas sector-sea turtle conflict/ assessment report | Action identified through stakeholder consultations |
| Develop a capital and recurrent budget for each management site | Effective site-based management requires financial investment. | Financial plans | Action identified within the 2022 NW Atlantic Leatherback RAP (H1.3) |
| Objective 2.3 Capacity building, collaboration, and governance | | | |
| Promote the participation of agencies with surveillance capabilities, such as the coast guard or research institutes | Visible presence of patrol/law enforcement officers often deters individuals from engaging in unlawful behavior. | Memoranda of Understanding | Action identified within the 2022 NW Atlantic Leatherback RAP (H2.3) |

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| Form international collaboration and partnerships with organizations operating on the high seas | A cross-country, multi-agency approach to managing the high seas and addressing threats to sea turtle survival and recovery is essential: it facilitates the sharing the knowledge, technology, and financial resources needed for research, conservation, and sustainable use. It also encourages a shared vision and coordinated action within an expansive space. | Memoranda of Understanding | Action identified within the 2022 NW Atlantic Leatherback RAP (H4.2) |
| Promote long-term engagement with key personnel (e.g., rangers) responsible for implementing management plans | Stakeholder engagement (including key management/conservation personnel) fosters a greater sense of stewardship, improves conservation outcomes, builds trust and a sense of value, making management efforts more resilient and effective. | Stakeholder engagement strategy | Action identified within the 2022 NW Atlantic Leatherback RAP (H5.1) |
| Enhance collaboration between stakeholders and fisherfolk to promote sustainability | Stakeholder engagement (fisherfolk) fosters a greater sense of stewardship, improves conservation outcomes, builds trust and a sense of value, making management efforts more resilient and effective. | List of viable options of gear modifications to reduce by-catch<br>Annual meetings with fisheries stakeholders to discuss sustainability | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (H5.2) |
| Determine best practices for enforcement agencies in protecting sea turtles in nearshore environments | By developing and applying best practice in law enforcement builds community trust, ensures fairness and accountability, increases efficiency and reduces costs, and leads to better regulatory outcomes by providing clear standards, promoting consistency, and fostering effective communication and collaboration amongst stakeholders, while also building credibility in the process. | Best practice guidelines<br>Law enforcement reports | Action identified within the 2022 NW Atlantic Leatherback RAP (H6.1) |

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| Design and implement a Capacity Building Strategy to strengthen the capability of enforcement agencies to protect sea turtles and their critical habitats | Environmental legislation is often not prioritized. Through training and investment, the profile of legislation related to sea turtle species and habitat conservation can be raised through training, physical resources and information-sharing, | Capacity Building Strategy | Action identified within the 2022 NW Atlantic Leatherback RAP (H6.2) |

# 3. COMMUNITY ENGAGEMENT

| Priority Action | Justification | Indicators | Notes |
|---|---|---|---|
| Objective 3.1 Community engagement and partnerships | | | |
| Establish a Regional Fund to facilitate and finance community engagement and awareness | A designated fund to support transboundary sea turtle conservation initiatives would bolster national investments and contributions. | Draft structure of Regional Fund for community engagement and awareness<br><br>External donor/funding mechanism list | Action identified within the 2022 NW Atlantic Leatherback RAP (C1.1) |
| Empower local communities by building capacity to monitor compliance with conservation regulations, while establishing better lines of communication and reporting | Training community members helps foster a sense of ownership and understanding, often leading to enhanced environmental stewardship. | Training programme<br><br>Community members trained in monitoring compliance | Action identified through stakeholder consultations<br><br>Action identified within the 2022 NW Atlantic Leatherback RAP (C1.2) |
| Promote partnerships with community leaders for successful (outreach) programming | As previous. | Community outreach programs<br><br>Increased levels of compliance | Action identified through stakeholder consultations<br><br>Action identified within the 2022 NW Atlantic Leatherback RAP (C2.1) |
| Provide forums for fishers to express doubts about conservation actions in a safe environment where they are heard in a genuine way | Providing space for fishers to express their views on sea turtle conservation is important in fostering collaborative solutions, ensuring buy-in, gaining local knowledge, and building trust and positive relationships. Incorporating fishers' perspectives can lead to the development of more practical, locally-relevant, and effective conservation measures that minimize negative economic impacts and reduce conflicts between fishing communities and conservation goals. | Minutes of meetings<br><br>Meeting attendance lists | Action identified within the 2022 NW Atlantic Leatherback RAP (C2.3) |

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| Involve fishers directly in data collection, surveys, data interpretation, research design | As previous. | KAP surveys<br>Increased levels of compliance<br>Outreach materials<br>Reports on results of alternative gear adoption | Action identified within the 2022 NW Atlantic Leatherback RAP (C2.2) |
| Train local community members as certified tour guides, equipping them with knowledge on responsible sea turtle interactions, where only trained, badge-holding guides are permitted to accompany tourists during nesting events | Exploitation of sea turtles is often due to a lack of economic choices. Developing and providing alternative livelihoods so that individuals are no longer dependent on turtle products for income helps to address one of the major drivers of sea turtle population declines. Programs that promote the long-term economic value of live sea turtles from sustainable tourism represent a viable solution. | Training workshop<br>Participant training lists<br>Certificates of completion | Action identified through stakeholder consultations |
| Objective 3.2 Public education and awareness | | | |
| Launch a media campaign using scientific data and research findings to raise awareness about the value of sea turtles, the threats they face, and conservation efforts benefiting Suriname's biodiversity and people | Communication and public awareness activities should draw on data and research findings, but should be presented in a way that is easily understood by a wide audience. Communications should be engaging, compelling, informative and inclusive. | Communications and outreach plan | Action identified through stakeholder consultations |
| Leverage social media platforms to amplify sea turtle conservation messages and foster broader public engagement | Communications should be engaging, compelling, informative and inclusive. | Communications and outreach strategy<br>Communications and outreach report | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (C5.1) |

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| Implement targeted outreach campaigns in local communities to raise awareness about the consequences of poaching and promoting alternative, sustainable livelihoods, adopting a whole-ecosystem approach | As previous. | Communications and outreach plan<br>Communications and outreach materials<br>Communications and outreach report | Action identified through stakeholder consultations |
| Create an awareness campaign for fishers highlighting the dangers and impacts of ghost gear on the marine environment and sea turtles | Communications and public awareness activities should be relevant to the target audience. | Communications and outreach plan<br>Communications and outreach materials<br>Communications and outreach report | Action identified through stakeholder consultations |
| Design outreach materials that can be available in indigenous (and other inclusive) languages | As previous. | Communications and outreach strategy<br>Communications and outreach materials<br>Communications and outreach report | Action identified within the 2022 NW Atlantic Leatherback RAP (C5.2) |
| Prepare activities for annual events on special days | Special events provide family-friendly and engaging opportunities to share information about the importance of sea turtles, their habitats, and the important work being done to protect and conserve them. | Communications and outreach strategy<br>Communications and outreach materials<br>Communications and outreach report | Action identified within the 2022 NW Atlantic Leatherback RAP (C5.3) |

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| Continue to integrate sea turtle conservation into school programs, empowering children to act as ambassadors who influence family and community attitudes and behaviors | Experiences from around the world clearly show that equipping young people with practical skills and knowledge about the natural environment, and especially by providing opportunities to directly engage in environmental conservation, creates undeniable connections to the natural world as well as a culture of care and respect for nature. These young people often go on to inspire and lead others, serving as important ambassadors and a voice for nature. | Communications and outreach strategy<br>Communications and outreach report | Action identified through stakeholder consultations<br>Action identified within the 2022 NW Atlantic Leatherback RAP (C4.3) |
| Develop successful experiential actions to engage diverse stakeholders, including youth | A range of stakeholders have well-established public engagement programs that provide ideal opportunities for hands-on learning about sea turtle conservation. | Communications and outreach strategy<br>Communications and outreach report | Action identified within the 2022 NW Atlantic Leatherback RAP (C4.2) |
| Establish outreach and engagement activities beyond the nesting season | Communications and public awareness activities should be relevant to the target audience and should be consistent and on-going. | Communications and outreach strategy<br>Communications and outreach report | Action identified within the 2022 NW Atlantic Leatherback RAP (C4.1) |
| Objective 3.3 Policy and advocacy | | | |
| Engage policymakers with evidence-based advocacy to highlight key conservation challenges and present practical, actionable solutions strategies such as those described in this Recovery Action Plan. | Adopting an evidence-based approach to lobbying lends credibility, reduces bias, and supports more informed, fair and effective policy outcomes by providing reliable data and insights over emotional opinions or political pressure. | Policy and action briefings<br>Meetings with policymakers | Action identified through stakeholder consultations |
| Expand academic offerings within academic institutions to include the marine sciences and related fields | Including marine sciences and related academic offerings at national institutions ensures that national capacity can be built through accessible and affordable higher level education. | Course offerings/registry<br>Course enrollment figures | Action identified through stakeholder consultations |

| Objective 3.4 Monitoring, evaluation, and knowledge management | | | |
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| Establish baseline or reference values for use in future assessments designed to measure effectiveness of education activities and their ability to change conservation-related behaviors | Establishing a baseline enables a measurable way to assess the effectiveness of conservation efforts and to support adaptive/iterative management approaches. | KAP surveys | Action identified within the 2022 NW Atlantic Leatherback RAP (C3.1) |
| Develop a regional education and outreach strategy based on the characteristics of Caribbean communities, with specific indicators and methods for measuring progress | As previous. | Gap analysis<br>Five-year communications and outreach plan<br>External donor/funding mechanism list | Action identified within the 2022 NW Atlantic Leatherback RAP (C3.2) |
| Promote international cultural and experiential exchanges among stakeholders in the region; for example, facilitated through the WIDECAST network | International cultural and experiential exchanges provide important opportunities to share and exchange information, to learn from others' experiences and to develop invaluable networks and relationships. | Communications and outreach strategy<br>Learning exchange programs<br>Learning exchange reports<br>Communications and outreach report | Action identified within the 2022 NW Atlantic Leatherback RAP (C5.4) |

# 4. SCIENTIFIC DATA NEEDS

| Priority Action | Justification | Indicators | Notes |
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| Objective 4.1 Data standardization, management, and technology | | | |
| Establish a national and regional framework for data collection and exchange to improve transparency and inform join conservation action, monitoring, and enforcement strategies | Standardising national and regional data collection programs can help ensure data accuracy, consistency, and reliability. It also support comparison of data between and amongst sites (regardless of jurisdiction), enabling better analysis and more informed decision-making. | Data sharing framework<br>Memoranda of Understanding | Action identified through stakeholder consultations |
| Create a network of ICT specialists across the region to work with scientists and support data management in the region | A network of ICT specialists across the sub-region will assist with data management and sharing, ultimately supporting informed decision-making and more effective sub-regional/global conservation efforts. | Terms of reference for ICT network | Action identified within the 2022 NW Atlantic Leatherback RAP (D1.1) |
| Form a regional scientific data group responsible for management and verification of information in support of this RAP | When fully implemented, the RAP and the STRAP will both generate a significant amount of data. Ensuring consistency and accuracy will take time and effort; a working group with the primary aim of managing and verifying information that is collected will help streamline analysis and applied conservation. | Terms of reference for regional scientific data group | Action identified within the 2022 NW Atlantic Leatherback RAP (D1.2) |
| Secure funding for the construction and management of the data hub and for the creation of data portal | Establishing and maintaining a data hub will require financial investment to ensure that it meets the needs of natural resources managers, decision-makers, and other relevant stakeholders. | Data hub | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.1) |

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| Develop software/platform to enable easy access for storage and recalling of data based on data gaps | Data is only useful if it can be accessed and used. A centralized platform, with data sharing agreements amongst all contributing stakeholders, will enable informed/ evidence-based decision-making. | Online shared regional database | Action identified within the 2022 NW Atlantic Leatherback RAP (D1.3) |
| Develop consensual guidelines specific for the collection and management of legal and IUU by-catch data throughout the region | Standardising national and regional data collection programs can help ensure data accuracy, consistency, and reliability. It also support comparison of data between and amongst sites (regardless of jurisdiction), enabling better analysis and more informed decision-making. | Data collection and management guidelines | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.2) |
| Develop consensual guidelines for the collection and approach of other threats data | As previous. | Data collection and management guidelines | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.3) |
| Disseminate existing standardization tools known to follow international best practices for data sharing | As previous. | Data sharing best practice protocols | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.4) |
| Establish standardized protocols for data collection and recording, particularly as it relates to nesting beaches to ensure that counts are accurate and comparable between year | As previous. | Data collection best practice protocols | Action identified through stakeholder consultations |
| Define recommendations and standardize protocols to collect tagging data | Standardising national and regional data collection programs can help ensure data accuracy, consistency, and reliability. It also support comparison of data between and amongst sites (regardless of jurisdiction), enabling better analysis and more informed decision-making. | Tagging data collection best practice protocols | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.5) |

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| Define recommendations and standardize protocols to collect data on turtles' health condition, including for stranded turtles | As previous. | Health condition data collection best practice protocols | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.6) |
| Develop a system to regionally collate all publications for sharing with agencies responsible for implementation of this STRAP | Sharing data and information drives efficiency, fosters collaboration and improves decision making. It allows also enables wider understanding of conservation issues and allows for broader discussions regarding addressing constraints and developing conservation solutions. | Populated data hub | Action identified within the 2022 NW Atlantic Leatherback RAP (D4.1) |
| Ensure that Suriname STRAP is implemented following the regional recommendations for data collection and field activities | Data collection and field activities should follow best practice and standardized protocols to ensure that results can be properly analyzed and compared (between sites, time periods, and species). | STRAP reports | Action identified within the 2022 NW Atlantic Leatherback RAP (D4.3) |
| Objective 4.2 Research, monitoring, and impact assessment | | | |
| Quantify the impact of egg poaching and its threat to the long-term viability of Suriname's sea turtle populations | Egg poaching leads to a direct decline in sea turtle populations. With only 1 in 1,000 eggs estimated to survive to adulthood, it is imperative to maximize the number of hatchlings successfully emerging and making it to sea. | Impact of poaching report | Action identified through stakeholder consultations |

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| Implement a comprehensive national regional turtle legal and IUU by-catch characterization program to identify sea turtle by-catch "hot spots", including during non-nesting periods and priority opportunities for mitigation actions | Identifying by-catch hotspots is essential to identify, guide, and prioritize mitigation measures and target audiences. | Regional turtle legal and IUU by-catch characterization program<br>Memoranda of Understanding<br>Sub-regional database for by-catch data<br>Standardized fishery observer projects and programs<br>Fisheries observers reports<br>On-vessel camera data collection reports<br>By-catch reports and maps<br>Fishery communities socioeconomic assessments | Action identified within the 2022 NW Atlantic Leatherback RAP (D3.1) |
| Assess potential impacts of longline fisheries on sea turtles in Suriname's waters | Research studies from elsewhere around the world have shown that longline fishing can lead to high sea turtle mortality rates from drowning, injury from hooks and lines and severe stress. Studies related to Suriname's longline fisheries and their impact on sea turtle populations have yet to be assessed. Results of these targeted studies can help guide fisheries management decisions to reduce sea turtle by-catch and mortality. | Long line impact assessment report | Action identified within the 2022 NW Atlantic Leatherback RAP (D3.3) |
| Establish standardized protocols for data collection and recording, particularly as it relates to nesting beaches to ensure that counts are accurate and comparable between year | As previous. | Data collection best practice protocols | Action identified through stakeholder consultations |

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| Define recommendations and standardize protocols to collect tagging data | Standardising national and regional data collection programs can help ensure data accuracy, consistency, and reliability. It also support comparison of data between and amongst sites (regardless of jurisdiction), enabling better analysis and more informed decision-making. | Tagging data collection best practice protocols | Action identified within the 2022 NW Atlantic Leatherback RAP (D2.5) |
| Collect data (stock assessments, landing data, morphological analysis) to inform evidence-based decisions on fisheries quotas and closed seasons | Fisheries-related data can be used to evaluate the impact of fishing effort on fish stocks as well as other non-target species (including sea turtles) and the habitats on which they depend. | Fisheries sector assessments/ reports | Action identified through stakeholder consultations |
| Improve knowledge of beach dynamics and its impacts on sea turtle nesting patterns | Suriname's beaches are changing: new beaches are emerging while others are being lost and all are at risk to sea level rise associated with the climate crisis. Understanding beach dynamics helps natural resources managers and practitioners to identify and prioritize suitable nesting habitats, manage beaches to enhance hatchling survival, and predict and mitigate the effects of climate change on nest viability and sex ratios. | Beach dynamics map | Action identified within the 2022 NW Atlantic Leatherback RAP (D5.2) |
| Identify the population indicators for the minimum end recovery goals for sea turtle populations | Population indicators provide a measurable way to track population health and to assess the effectiveness of conservation efforts. | Population indicators<br>List of priority management interventions to support population recovery goals | Action identified within the 2022 NW Atlantic Leatherback RAP (D5.3) |

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| Prioritize collaborative sea turtle data collection and analysis of existing data | A collaborative approach to data collection and analysis provides a wider, comprehensive view of sea turtle populations, threats, and habitats, all of which are essential for the effective management of these migratory species. This approach also encourages and supports constructive dialogue and more robust and coordinated conservation outcomes. | Satellite tracking data and reports<br>Capture-recapture data and reports<br>Hatchling production studies and reports | Action identified within the 2022 NW Atlantic Leatherback RAP (D5.1) |
| Use established, emerging, and innovative technology and data collection methods to assist with sea turtle nesting and in-water data collection, including unmanned aircraft systems and underwater drones | Using a range of tools to support data collection, including innovative and emerging technology can increase efficiency and effectiveness while creating opportunities to collect data that may otherwise not be possible. | Populated data hub | Action identified through stakeholder consultations |
| Collect robust sea turtle nesting data, including but not limited to number of nests, number of successful nests, and hatchling emergence data | Sea turtle nesting data provide critical population trend information, help identify key threats and habitats, and can be used to inform effectiveness of management actions. | Sea turtle nesting data reports | Action identified through stakeholder consultations |
| Investigate impact of life history traits on conservation priorities | Recognizing that sea turtles have complex life histories, multifaceted solutions, informed through in-depth studies related to genetics, sex ratios, thermal regulation, feeding and nesting patterns, impacts of disease, pollution and climate change are required for effective population recovery and long-term sustainability. | Hatchling success and genetic resilience study and reports<br>Report on relationship between water temperature, hurricanes and sea turtle nesting activity<br>Report on impact of disease and pollution on sea turtle health | Action identified within the 2022 NW Atlantic Leatherback RAP (D5.4) |

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| Conduct climate impact research to assess the effects of climate change on marine ecosystems, focusing on sea turtle migration, nesting patterns, and food availability | Climate change can have profound impacts on sea turtles through, for example, loss of foraging and nesting habitat as well as migration patterns and routes. Understanding these impacts can help to future-proof conservation interventions. | Publications and reports | Action identified through stakeholder consultations |
| Conduct studies on the use of the Tijgerbank by fishers and their impact on nesting and at-sea populations | The Tijgerbank represents one of Suriname's few remaining spaces for nesting and at-sea turtles. It is also used by fishers as one of the few areas for safe mooring, especially during storms and sea surges as well as an area used by foreign fishers involved in IUU fishing. Over the last few years, there has been an increase in risk of unsustainable human-sea turtle interactions, including by-catch and poaching. No studies to measure direct and indirect impacts, however, have been conducted. These studies are essential to inform conservation and management interventions. | Tijgerbank studies and reports | Action identified through stakeholder consultations |
| Conduct studies to determine the most effective means to reduce the impact that fishers using Tijgerbank have on sea turtle populations | As previous. | Impact reduction studies and recommendations | Action identified through stakeholder consultations |
| Implement satellite tracking to monitor sea turtle nesting and migration, using data to guide the establishment of marine protected areas | Satellite tracking can provide invaluable information related to sea turtle foraging grounds, migratory corridors and nesting areas, all of which are essential for effective spatial planning. This data also provides strong, scientific evidence to define areas needing protection while helping to tailor management measures to dynamic spatial and temporal use of habitats. | Satellite tracking data and reports<br>Marine protected area brief/ recommendations | Action identified through stakeholder consultations |

| Objective 4.3 Collaboration, capacity building, and resource mobilization | | | |
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| Secure long-term funding to support continuous data collection and monitoring programs, ensuring sustained conservation efforts | Sea turtle monitoring programs are often long-term initiatives that require on-going and secure funding. | Sustainable financing mechanism | Action identified through stakeholder consultations |
| Strengthen cross-border collaboration and information sharing between Suriname, Guyana, and French Guiana to address IUU fishing and promote coordinated conservation efforts | Sea turtles are highly migratory species, traveling thousands of kilometers annually as they make their way between foraging and breeding grounds. Research has shown that national-level conservation efforts are often inadequate because a single country's conservation efforts can be undermined by unsustainable activities in another. Conservation of these species transcends political and geographical boundaries: conservation must be addressed at a multinational level. | Memoranda of Understanding | Action identified through stakeholder consultations |
| Leverage existing expertise and institutional knowledge to build on past successes (and learn from past failures) rather than duplicating efforts or starting anew | Building on existing expertise and knowledge increases efficiency. It also allows natural resource managers and other stakeholders to learn from past experiences – both positive and negative – to amplify successes and to avoid making the same mistakes; this is especially important when resources are limited and achieving conservation successes is urgent. | Review of past projects, programs, and collaborations | Action identified through stakeholder consultations |

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| Engage academic institutions to ensure conservation management decisions are grounded in research and evidence | With a network of highly trained researchers, academic institutions offer an opportunity to take advantage of expert knowledge, research facilities, and, potentially, funding. | Data analysis and reporting guidelines<br><br>Peer-reviewed publications and guidelines | Action identified through stakeholder consultations |
| Design and pilot by-catch mitigation technologies, specifically for drift net and trawl fisheries to reduce sea turtle (and other non-target species) mortality | A structured, research-based approach to assessing alternate fishing gear as it relates to reducing/ avoiding sea turtle by-catch ensures that decisions made are evidence-based and effective. | Gear modification report | Action identified through stakeholder consultations<br><br>Action identified within the 2022 NW Atlantic Leatherback RAP (D3.2) |
| Organize a Data Science seminar series as an ongoing activity | A multitude of methods can be used to share information. Seminars offer opportunities to reach a wider audience and facilitate real-time engagement, including productive dialogue. | Data Science Seminar series program, presentations and attendance lists/numbers | Action identified within the 2022 NW Atlantic Leatherback RAP (D4.2) |
| Objective 4.4 Conservation action and threat mitigation | | | |
| Undertake a needs assessment of STRAP implementing agencies and partners to strengthen conservation efforts | Capacity needs assessments provide an evidence-based understanding of existing strengths and gaps in national agency and stakeholder capabilities, enabling strategic, targeted interventions and resource allocation. | Needs assessment | Action identified through stakeholder consultations |

# 5. CAPACITY BUILDING

| Priority Action | Justification | Indicators | Notes |
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| Objective 5.1 Organizational and operational capacity building | | | |
| Undertake a needs assessment of STRAP implementing agencies and partners to strengthen conservation efforts | Capacity needs assessments provide an evidence-based understanding of existing strengths and gaps in national agency and stakeholder capabilities, enabling strategic, targeted interventions and resource allocation. | Needs assessment | Action identified through stakeholder consultations |
| Increase operational capacity by upgrading field infrastructure (e.g., ranger stations), acquiring additional vehicles and vessels to support faster, more flexible, and wider patrol coverage, including across multiple-use management areas, and securing monitoring equipment (e.g., drones, field gear) | Agencies and organisations, including community-based organisations, involved in sea turtle conservation have gaps in the capacity to manage and protect these at-risk species. These gaps must be filled for those agencies and organisations to be as effective as they can be. | Annual reports<br>Inventories<br>Maintenance reports | Action identified through stakeholder consultations |
| Expand ranger staffing, increase the number of checkpoints, and establish additional outposts to maximize field presence | Enhanced monitoring, surveillance and enforcement requires increased capacity and effort. | Annual reports | Action identified through stakeholder consultations |
| Empower local communities by building capacity to monitor compliance with conservation regulations, while establishing better lines of communication and reporting | Engaging communities in sea turtle conservation efforts helps foster a sense of ownership and understanding while also leading to increased presence on nesting beaches and monitoring capacity | Capacity building training reports<br>Community members participating in sea turtle monitoring programs | Action identified through stakeholder consultations |
| Objective 5.2 Financial resource mobilization | | | |
| Secure increased and sustained budget allocations to cover essential operational costs, staff salaries, staff training, and resource maintenance | Current levels of investment in sea turtle conservation is insufficient to adequate conserve and protect Suriname's sea turtles. Additional, sustained funding is required. | Annual budget allocations | Action identified through stakeholder consultations |

| Objective 5.3 Community and livelihoods development | | | |
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| Strengthen sustainable alternative livelihood programs that extend beyond the nesting season, ensuring year-round income stability for local communities | Exploitation of sea turtles is often due to a lack of economic choices. Developing and providing alternative livelihoods so that individuals are no longer dependent on turtle products for income helps to address one of the major drivers of sea turtle population declines. Programs that promote the long-term economic value of live sea turtles represent a viable solution. | Community development reports<br>Socioeconomic assessments and reports<br>National statistics | Action identified through stakeholder consultations |
| Foster strong, trust-based relationships with local communities to promote shared stewardship of nesting areas and the protection of sea turtle populations | Engaging communities in sea turtle conservation efforts and ensuring open, transparent, and inclusive dialogue helps foster a sense of ownership and understanding, often leading to enhanced environmental stewardship. | Community members participating in sea turtle monitoring programs<br>Community members attending and contributing to meetings, workshops, consultations<br>Collaborative partnerships | Action identified through stakeholder consultations |

# ANNEX 4. SURINAME STRAP KEY PERFORMANCE INDICATORS

Key Performance Indicators (KPIs) are directly aligned with and adapted from the 2022 Regional Action Plan (Barragan *et al*., 2022).

| KPI class | KPI | Definition | Unit of Measurement | Frequency of Measurement |
|---|---|---|---|---|
| **Sustainable Development** | Sea turtle population trend | Sea turtle population data by species recorded over time and reported to national authorities and agencies | Percentage change (by location and holistically) | Annually |
| | Sea turtle nest success trend | Fraction of successful nests (i.e. that produce hatchlings) to total nests, documented at individual beaches | Percentage change (by location and holistically) | Annually |
| | Sea turtle bycatch trend | Reports of fisheries interactions by location, gear type, and legal vs IUU fishery | Percentage change | Annually |
| | Protected area coverage | Amount of coastal land and/or sea legally protected or included within MUMAs | Hectares (disaggregated by habitat type, protected area category) | Annually |
| **Community & Stakeholders** | Enforcement effort | Labor hours dedicated to enforcement | Labor-hours | Quarterly |
| | Public awareness programme reach | Estimated public outreach (related to conservation needs and priorities) created using various media | Viewer numbers (disaggregated by location and demographic) | Quarterly |
| | Volunteer participation | Number of fishers, youth, and other stakeholders officially involved within STRAP conservation activities and programs | Persons (disaggregated by stakeholder group, gender) | Quarterly |

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| **Community & Stakeholders** | Fisher participation | Number of fishers officially involved within STRAP conservation activities and programs | Persons (disaggregated by fishery type, gender) | Quarterly |
| | Provision of alternative livelihood opportunities | Number of fishers officially involved in alternative livelihood opportunities generated through the implementation of the STRAP | Persons (disaggregated by gender) | Quarterly |
| **Processes** | Strengthened law and policy regimes | Number of STRAP-related conservation initiatives submitted to (and/or approved by) local or national legislative entities | Initiatives (disaggregated by submitted and approved) | Annually |
| | Integrated national messaging | Number of agencies/ organizations involved in STRAP-related outreach | Agencies/ Oranizations (disaggregated by sector) | Annually |
| | Best practice guidelines and manuals developed | Documents containing best practice guidelines (new or updated) for implementation by relevant stakeholders in habitat (beach, at-sea) conservation | Documents (disaggregated by stakeholder group) | As needed |
| | Number of key stakeholders trained on and applying best practices | Total number of stakeholders involved in actions that may impact sea turtles, who have been formally trained on best practices and submit evidence of application and follow-through | Persons (disaggregated by stakeholder group, gender, trained, and applied) | Annually |
| | Total community members reached | Number of registered persons participating in dissemination of knowledge content created by STRAP-related programs | Persons (disaggregated by stakeholder group, gender) | Annually |

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| **Processes** | Total training hours for fishers | Total registered hours of fisher training provided by relevant entities | Attendance-hours (disaggregated by fishery type, gender) | Annually |
| **Resources** | Number of databases | Information related to inter alia sea turtle life history, population dynamics, scientific publications, legislation stored in (open-/semi-open-) access databases | Databases | Annually |
| | Knowledge partner roster | Approved roster of scientific partners to comply with technical capability requirements | Percentage | Quarterly |
| | Progress in creating and sharing the knowledge base | Trend in the number of scientific knowledge products (technical notes, guidelines, papers, databases, etc.) developed through the STRAP | Percentage | Annually |
| | Funding committed by donors and sponsors | Total funds applied for, committed, and available to STRAP activities | Amount (disaggregated by number of project proposals and number of successful proposals) | Annually |

# ANNEX 5. SURINAME STRAP IMPLEMENTATION SCHEDULE

## 1. POLICY AND LEGISLATION

| Action | Year | | | | | | Priority | Lead Agency | Other Agencies | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 - 2035 | | | | |
| Objective 1.1 Strengthening the legal and policy framework | | | | | | | | | | |
| Conduct a gap analysis between existing legal tools and the implementation of mitigation measures identified in the Regional Action Plan | x | x | | | | | **High** | Nature Conservation Division (LBB/ NCD) | National Environmental Authority (NMA), Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), Stichting SOBA, Anton de Kom University of Suriname-environmental sciences, Claudetta Toney University of Suriname (CT-USCER) Suriname Conservation Foundation (SCF), STINASU, Galibi Community (STIDUNAL), WWF, VISCOL (fishermen collectives) | Action identified within the 2022 NW Atlantic Leatherback RAP (L1.1) * |

* Through this Annex, references to the "2022 NW Atlantic Leatherback RAP" refer to Barragan *et al.* (2022).

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| Develop legal mechanisms that facilitate cross-border collaboration, including enforcement strategy to manage shared marine resources, with a focus on aligning patrol efforts across territorial waters | x | x | | | | | Medium | Maritime Authority of Suriname (MAS) | Coast Guard, Maritime Police, Ministry of Agriculture, Fisheries and Animal Husbandry, Ministry of Public Works and Spatial Planning, LBB/Nature Conservation Division | Action identified through stakeholder consultations<br><br>Action identified with the 2022 NW Atlantic Leatherback RAP (L1.2) |
| Ensure that legislation supports the implementation of Suriname's Fisheries Management Plan | | x | x | x | x | x | High | Ministry of Agriculture, Fisheries and Animal Husbandry | Department of Fisheries, House of Assembly | Action identified through stakeholder consultations |
| Advocate for a ban on single-use plastics in Suriname to reduce plastic waste | x | x | | | | | Medium | Ministry of Economics and Trade (EZOTI) | Environmental Police (Ministry of Public Works), merchants, schools, youth agencies, media, WWF, NGOs, CSOs | Action identified through stakeholder consultations |
| Set appropriate regulations and fines according to the true cost of non-compliance | | x | x | | | | High | Nature Conservation Division (LBB/NCD), National Environmental Authority (NMA), Ministry of Oil, Gas and Environment | Suriname Coast Guard, Maritime Authority of Suriname (MAS), STINASU, Galibi Community (STIDUNAL), WWF, VISCOL (fishermen collectives) | Action identified with the 2022 NW Atlantic Leatherback RAP (L2.1) |
| Encourage a culture of prosecution designed to ensure that those benefiting the most from rule-breaking are punished | | x | x | x | x | x | Medium | Nature Conservation Division (LBB/NCD), National Environmental Authority (NMA), Ministry of Oil, Gas and Environment, | Suriname Coast Guard, Maritime Authority of Suriname (MAS), STINASU, Galibi Community (STIDUNAL), WWF, VISCOL (fishermen collectives) | Action identified with the 2022 NW Atlantic Leatherback RAP (L2.3) |

| Objective 1.2 Enhancing enforcement and surveillance | | | | | | | | | | |
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| Set the appropriate conditions for increased enforcement of policies and regulations pertinent to the conservation of sea turtles | | | x | x | | | **High** | Nature Conservation Division (LBB/ NCD), National Environmental Authority (NMA), Ministry of Oil, Gas and Environment | Suriname Coast Guard, Maritime Authority of Suriname (MAS), STINASU, Galibi Community (STIDUNAL), WWF, VISCOL (fishermen collectives) | Action identified with the 2022 NW Atlantic Leatherback RAP (L2.2) |
| Increase patrols in closed areas, develop and implement other protected areas, especially at and proximal to key nesting sites | | x | x | x | x | x | **Medium** | Nature Conservation Division (LBB/ NCD) | National Environmental Authority (NMA), Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), WWF | Action identified with the 2022 NW Atlantic Leatherback RAP (L4.1) |
| Establish multi-stakeholder patrol teams to enhance coordination and surveillance coverage | x | x | x | x | x | x | **High** | Nature Conservation Division | Suriname Navy/Marines, Coast Guard, Suriname Maritime Police | Action identified through stakeholder consultations |
| Extend patrol durations to fully encompass the entire turtle breeding season | | x | x | x | x | x | **High** | Nature Conservation Division | Civil Aviation Department, Suriname Navy/Marines, Coast Guard, Suriname Maritime Police, Galibi community rangers, WWF-Guianas | Action identified through stakeholder consultations |
| Deploy drone and real-time satellite imaging technology to monitor beaches, the nearshore and offshore and extend surveillance reach to secure protection of sea turtles | | x | x | x | x | x | **High** | Nature Conservation Division | Civil Aviation Department, Ministry of Transportation, WWF-Guianas | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (L4.3) |

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| Increase the frequency and consistency of patrols to establish a stronger deterrent against poaching activities | | x | x | x | x | x | High | Nature Conservation Division | Civil Aviation Department, Suriname Navy/Marines, Coast Guard, Suriname Maritime Police, Galibi community rangers | Action identified through stakeholder consultations |
| Establish 24-hour surveillance of up to 2km of Baboensanti Beach, year-round | | x | x | x | x | x | **High** | Nature Conservation Division | Civil Aviation Department, Suriname Navy/Marines, Coast Guard, Suriname Maritime Police, Galibi community rangers | Action identified through stakeholder consultations |
| Regulate and limit use of the mooring site near the Tijgerbank no-fishing zone to restrict unauthorized access to turtle nesting areas | | x | x | x | x | x | **High** | Ministry of Spatial Planning and Environment | Department of Fisheries, fishers, Galibi community | Action identified through stakeholder consultations |
| Continue to ensure all shrimp trawlers are equipped with Turtle Excluder Devices and comply with fisheries regulations | x | x | x | x | x | x | **High** | Department of Fisheries | Shrimp fishers | Action identified through stakeholder consultations |
| Implement interventions outlined in the 2024 National Plan of Action on IUU Fishing | x | x | x | x | x | x | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries | | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (L4.4) |
| Objective 1.3 Building partnerships and capacity | | | | | | | | | | |
| Work with the IAC Secretariat to facilitate outreach to non-parties | x | x | x | | | | **Low** | Nature Conservation Division (LBB/NCD), Ministry of Oil, Gas and Environment | Claudetta Toney University of Suriname (CT-USCER), Stichting SOBA | Action identified with the 2022 NW Atlantic Leatherback RAP (L3.1) |

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| Promote the organization of a sub-group within the SPAW Protocol's Species Working Group specifically to advance RAP recommendations | | x | x | | | | Low | Nature Conservation Division (LBB/ NCD) | Stichting SOBA Claudetta Toney University of Suriname (CT-USCER) Adekus-environmental sciences | Action identified with the 2022 NW Atlantic Leatherback RAP (L3.2) |
| Employ and train local community members as rangers to create sustainable livelihoods and reduce reliance on poaching | x | x | x | x | x | x | Medium | Nature Conservation Division | Amazon Conservation Team Suriname, Galibi community, Braamspunt community, WWF | Action identified through stakeholder consultations |
| Build partnerships with local communities, research agencies, and stakeholders to increase presence at Tijgerbank, Galibi Nature Reserve, and other No Fishing Zone | x | x | x | x | x | x | High | Nature Conservation Division | Suriname Maritime Police, international and national research and academic institutions, neighboring communities, tourism operators, WWF, local NGOs, civil society organizations (CSO) | Action identi-fied through stakeholder consultations |
| Partner with French Guiana to enhance monitoring and enforcement at the Tijgerbank mooring site and surrounding no-take zones, leveraging their patrol capacity and shared interest in preventing illegal fishing | | x | x | x | x | x | High | Ministry of Foreign Affairs, International Business and International Cooperation | Ministry of Land Policy and Forest Management | Action identi-fied through stakeholder consultations |
| Leverage resolutions and reporting requirements regarding by-catch and IUU through the IAC | | x | x | x | x | x | Low | Nature Conservation Division | | Action identified with the 2022 NW Atlantic Leatherback RAP (L4.2) |

# 2. PROTECTION AND MANAGEMENT OF SPECIES AND CRITICAL HABITATS

| Action | Year | | | | | | Priority | Lead Agency | Other Agencies | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 - 2035 | | | | |
| Objective 2.1 Habitat and ecosystem protection | | | | | | | | | | |
| Build regional guidelines for the development of sea turtle beach management plans with conflict-free management actions | | x | | | | | Medium | Nature Conservation Division (LBB/ NCD), WWF-Guianas | National Environmental Authority (NMA), Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), STINASU, Galibi Community (STIDUNAL), WWF, SUNFO/VISCOL (fishermen collectives), Adekus-Environmental Sciences, Claudetta Toney University of Suriname (CT-USCER-Marine Sciences), Stichting SOBA | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (H1.1) |
| Engage resource managers to account for turtle nesting habitat viability when approving proposals to mine sand, fortify coastlines, and other coastal development activities potentially adverse to sea turtle survival | | x | x | | | | Medium | Nature Conservation Division (LBB/ NCD), WWF-Guianas | Ministry of Oil, Gas and Environment, Ministry of Natural Resources. Ministry of Spatial Planning | Action identified with the 2022 NW Atlantic Leatherback RAP (H1.2) |
| Advocate for retaining/ enhancing resilience in coastal ecosystems, particularly as it relates to residential and tourism infrastructure development in an era of climate change and sea level rise | | x | x | x | x | x | High | Nature Conservation Division (LBB/ NCD) | Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), STINASU, Galibi Community (STIDUNAL), WWF, Ministry of Spatial Planning | Action identified with the 2022 NW Atlantic Leatherback RAP (H1.4) |

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| Establish series of nearshore protected areas based on data on habitat used by sea turtles during mating and nesting seasons | | x | x | x | x | | **High** | National Assembly, Nature Conservation Division (LBB/ NCD) | Ministry of Oil, Gas and Environment | Action identified with the 2022 NW Atlantic Leatherback RAP (H2.1) |
| Establish Tijgerbank as a Protected Area to protect nesting turtles and to prevent IUU fishing and by-catch | | x | | | | | **(Very) High** | Nature Conservation Division, Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname, Ministry of Oil, Gas and Environment | Galibi community, WWF, NGOs | Action identified through stakeholder consultations |
| Develop a methodology for demarcating and protecting marine boundaries of sea turtle habitats | | | x | x | x | | **High** | Nature Conservation Division (LBB/ NCD), Suriname | Claudetta Toney University of Suriname - Marine Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), Anton de Kom University of Suriname-environmental sciences WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (H2.2) |
| Continue to implement Suriname's Marine Spatial Planning Project, ensuring effective integration of conservation goals into spatial management efforts | x | x | x | x | x | x | **High** | Ministry of Spatial Planning and Environment | Suriname's Forest Management Service, Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname, Coast Guard | Action identified through stakeholder consultations |
| Develop partnerships to advance ocean clean-up campaigns that tackle marine pollution | | x | x | x | x | x | **High** | Ministry of Oil, Gas and Environment | National Environmental Authority in Suriname, Ministry of Public Works, fishers collectives, general public, private sector, NGOs: CT-USCER-marine sciences, CSOs, Oil & Gas Industry | Action identified through stakeholder consultations |

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| Enforce laws and regulations that define pollution, identify responsible parties, and ensure accountability for environmental harm | x | x | x | x | x | x | **High** | National Environmental Authority in Suriname, Environmental Crime Unit of the Suriname Police Force, Public prosecutors (OM) (environment desk) | Forest Management Service, National Army, National Coordination for Disaster Management in Suriname, Suriname Police Force | Action identified through stakeholder consultations |
| Establish a vessel inspection program at ports to prevent the discharge of gray water and bilge water into the marine environment | | | x | x | x | x | **High** | National Environmental Authority in Suriname | Maritime Authority of Suriname, Coast Guard | Action identified through stakeholder consultations |
| Create and maintain egg hatcheries to address sea turtle nest loss, considering beach erosion | x | x | x | x | x | x | **High** | Nature Conservation Division | Anton de Kom University of Suriname, local communities, NGOs | Action identified through stakeholder consultations |
| Objective 2.2 Research, monitoring, and adaptive management | | | | | | | | | | |
| Characterize distribution and density of fixed gear (IUU and legal) and turtles in shelf waters using aerial surveys and other methods | | x | x | x | | | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries | WWF<br>Ministry of Defense-Marine | Action identified with the 2022 NW Atlantic Leatherback RAP (H3.1) |
| Ensure continued work to monitor sea turtle populations and fisheries interactions in identified inter-nesting areas, foraging areas, and migratory pathways | | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | WWF-Guianas, CT-USCER | Action identified with the 2022 NW Atlantic Leatherback RAP (H3.2) |

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| Develop a structured program for testing, adaptation, and adoption of modified gear in gillnet fisheries to avoid sea turtle by-catch in priority areas, nationally and regionally | | | x | x | x | x | High | Ministry of Agriculture, Animal Husbandry and Fisheries | Nature Conservation Division (LBB/NCD), WWF-Guianas | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (H3.3) |
| Identify sea turtle legal and IUU by-catch "hot spots" in the ocean habitat (high seas) | | | x | x | | | Medium | Ministry of Defence, Ministry of Agriculture, Animal Husbandry and Fisheries | CT-USCER, other international partners | Action identified with the 2022 NW Atlantic Leatherback RAP (H4.1) |
| Strengthen the conservation actions along identified migratory routes and foraging areas | | | | x | x | x | Low | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (H4.3) |
| Develop an operational management plan, which may vary based on location/beach (specific to an area's needs) | | | x | | | | High | Nature Conservation Division (LBB/NCD) | WWF, STIDUNAL, fishermen collectives, CT-USCER, Stichting SOBA | Action identified with the 2022 NW Atlantic Leatherback RAP (H6.3) |
| Conduct research into the impact of seismic activity from the oil and gas sector on sea turtle migration patterns and nesting behavior | | | | | x | | High | Leerstoel Milieuweten-schappen, Anton de Kom University of Suriname | Suriname's Forest Management Service, Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname, CSOs, Staatsolie (State oil Company) | Action identified through stakeholder consultations |
| Develop a capital and recurrent budget for each management site | | x | x | x | x | x | Medium | Nature Conservation Division (LBB/NCD) | | Action identified with the 2022 NW Atlantic Leatherback RAP (H1.3) |

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| Objective 2.3 Capacity building, collaboration, and governance | | | | | | | | | | |
| Promote the participation of agencies with surveillance capabilities, such as the coast guard or research institutes | x | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | Coast Guard, Division of National Security | Action identified with the 2022 NW Atlantic Leatherback RAP (H2.3) |
| Form international collaboration and partnerships with organizations operating on the high seas | x | x | x | x | x | x | **Low** | Nature Conservation Division (LBB/ NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (H4.2) |
| Promote long-term engagement with key personnel (e.g., rangers) responsible for implementing management plans | x | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (H5.1) |
| Enhance collaboration between stakeholders and fisherfolk to promote sustainability | | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | Fishermen collectives | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (H5.2) |
| Determine best practices for enforcement agencies in protecting sea turtles in nearshore environments | x | | | | | | **High** | Nature Conservation Division (LBB/ NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (H6.1) |
| Design and implement a Capacity Building Strategy to strengthen the capability of enforcement agencies to protect sea turtles and their critical habitats | | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (H6.2) |

# 3. COMMUNITY ENGAGEMENT

| Action | Year | | | | | | Priority | Lead Agency | Other Agencies | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 - 2035 | | | | |
| Objective 3.1 Community engagement and partnerships | | | | | | | | | | |
| Establish a Regional Fund to facilitate and finance community engagement and awareness | | x | x | x | | | High | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (C1.1) |
| Empower local communities by building capacity to monitor compliance with conservation regulations, while establishing better lines of communication and reporting | | x | x | x | x | x | High | Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname | Suriname Navy, Coast Guard, Suriname Police Force | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (C1.2) |
| Promote partnerships with community leaders for successful (outreach) programming | x | x | x | x | x | x | Medium | Nature Conservation Division (LBB/ NCD) | WWF-Guianas, STIDUNAL, fishermen collectives | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (C2.1) |
| Provide forums for fishers to express doubts about conservation actions in a safe environment where they are heard in a genuine way | | x | x | x | x | x | Low | Nature Conservation Division (LBB/ NCD) | STINASU, Galibi Community (STIDUNAL), WWF-Guianas, SUNFO/ VISCOL (fishermen collectives) | Action identified with the 2022 NW Atlantic Leatherback RAP (C2.3) |

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| Involve fishers directly in data collection, surveys, data interpretation, research design | | x | x | x | x | x | Medium | Nature Conservation Division (LBB/ NCD) | Ministry of Agriculture, Animal Husbandry and Fisheries, fishermen collectives | Action identified with the 2022 NW Atlantic Leatherback RAP (C2.2) |
| Train local community members as certified tour guides, equipping them with knowledge on responsible sea turtle interactions, where only trained, badge-holding guides are permitted to accompany tourists during nesting events | | x | x | x | x | x | Medium | Ministry of Land Policy and Forest Management, Suriname's Forest Management Service, Nature Conservation Division | WWF, United Tour Guides Suriname (UTGS), Plantage Resort frederiksdorp, Ministry of Regional Development and Sports, Foundation Sustainable Nature Conservation Alusiaka from Galibi (STIDUNAL), Stichting tour guides and Lodge holders Galibi, Suriname Nature Conservation Foundation (STINASU), Suriname Police Force, Anton de Kom University of Suriname, Youth IPLCS/ Wildlife Ranger Clubs | Action identified through stakeholder consultations |
| Objective 3.2 Public education and awareness | | | | | | | | | | |
| Launch a media campaign using scientific data and research findings to raise awareness about the value of sea turtles, the threats they face, and conservation efforts benefiting Suriname's biodiversity and people | | x | x | x | x | x | Medium | Ministry of Land Policy and Forestry Management, Education Department, Suriname's Forest Management Service (LBB), Nature Conservation Division | Ministry of Education, Science and Culture, WWF, Conservation International, Green Heritage Fund Suriname, Ministry of the Interior (BIZA), National Environmental Authority in Suriname, radio and television stations, Stichting SOBA, CT-USCER | Action identified through stakeholder consultations |

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| Leverage social media platforms to amplify sea turtle conservation messages and foster broader public engagement | x | x | x | x | x | x | **High** | Ministry of Land Policy and Forestry Management, Education Department, Suriname's Forest Management Service (LBB), Nature Conservation Division | Influencers/ ambassadors, (Communication Service Suriname (CDS), Conservation International Suriname, WWF | Action identified through stakeholder consultations<br><br>Action identified with the 2022 NW Atlantic Leatherback RAP (C5.1) |
| Implement targeted outreach campaigns in local communities to raise awareness about the consequences of poaching and promoting alternative, sustainable livelihoods, adopting a whole-ecosystem approach | x | x | x | x | x | x | **High** | Ministry of Land Policy and Forestry Management, Education Department, Suriname's Forest Management Service, Nature Conservation Division | Ministry of Regional Development and Sports, Foundation Sustainable Nature Conservation Alusiaka from Galibi, Galibi community (STIDUNAL), United Tour Guides Suriname (UTGS), Awala radio station, WWF, Suriname Nature Conservation Foundation (STINASU), Suriname Tourism Foundation, Conservation International Suriname | Action identified through stakeholder consultations |
| Create an awareness campaign for fishers highlighting the dangers and impacts of ghost gear on the marine environment and sea turtles | | x | | | | | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries and Suriname | Ministry of Land Policy and Forest Management, WWF, Conservation International, Green Heritage Fund Suriname, fishers collectives: SUNFO (Suriname National Fisherfolk Organization), VISCOL (Fisheries Collective Commewijne), Stichting SOBA; CT-USCER | Action identified through stakeholder consultations |

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| Design outreach materials that can be available in indigenous (and other inclusive) languages | | x | x | x | x | x | High | Nature Conservation Division (LBB/NCD) | WWF-Guianas, VIDS, Stichting SOBA, CT-USCER | Action identified with the 2022 NW Atlantic Leatherback RAP (C5.2) |
| Prepare activities for annual events on special days | | x | x | x | | | High | Nature Conservation Division (LBB/NCD) | WWF-Guianas, Stichting SOBA, CT-USCER | Action identified with the 2022 NW Atlantic Leatherback RAP (C5.3) |
| Continue to integrate sea turtle conservation into school programs, empowering children to act as ambassadors who influence family and community attitudes and behaviors | x | x | x | x | x | x | Medium | Ministry of Land Policy and Forestry Management, Education Department, Suriname's Forest Management Service, Nature Conservation Division | Kinderboekenfestival, Ministry of Education, Science and Culture, Ministry of Regional Development and Sports, Jongeren informatie beurs, education institutions, WWF | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (C4.3) |
| Develop successful experiential actions to engage diverse stakeholders, including youth | x | x | x | x | x | x | Medium | Nature Conservation Division (LBB/NCD) | Youth Fora, Jaycees, youth ambassadors | Action identified with the 2022 NW Atlantic Leatherback RAP (C4.2) |
| Establish outreach and engagement activities beyond the nesting season | x | x | x | x | x | x | Medium | Nature Conservation Division (LBB/NCD) | NGOs, CBOs, CSOs | Action identified with the 2022 NW Atlantic Leatherback RAP (C4.1) |

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| Objective 3.3 Policy and advocacy | | | | | | | | | | |
| Engage policymakers with evidence-based advocacy to highlight key conservation challenges and present practical, actionable solutions such as those described in this Recovery Action Plan | x | x | x | x | x | x | High | WWF | Ministry of Land Policy and Forest Management, Ministry of Agriculture, Animal Husbandry and Fisheries, Department of Fisheries, National Environmental Authority in Suriname, Ministry of Spatial Planning and Environment, Ministry of Regional Development and Sports | Action identified through stakeholder consultations |
| Expand academic offerings within academic institutions to include the marine sciences and related fields | | | | | | x | **Medium** | Anton de Kom University of Suriname, other academic/ higher learning institutions | | Action identified through stakeholder consultations |
| Objective 3.4 Monitoring, evaluation, and knowledge management | | | | | | | | | | |
| Establish baseline or reference values for use in future assessments designed to measure effectiveness of education activities and their ability to change conservation-related behaviors | | x | | | | | **High** | Nature Conservation Division (LBB/ NCD) | | Action identified with the 2022 NW Atlantic Leatherback RAP (C3.1) |
| Develop a regional education and outreach strategy based on the characteristics of Caribbean communities, with specific indicators and methods for measuring progress | x | x | x | x | x | x | **High** | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (C3.2) |
| Promote international cultural and experiential exchanges among stakeholders in the region; for example, facilitated through the WIDECAST network | | x | x | x | x | x | **Low** | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (C5.4) |

# 4. SCIENTIFIC DATA NEEDS

| Action | Year | | | | | | Priority | Lead Agency | Other Agencies | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 - 2035 | | | | |
| Objective 4.1 Data standardization, management, and technology | | | | | | | | | | |
| Establish a national and regional framework for data collection and exchange to improve transparency and inform join conservation action, monitoring, and enforcement strategies | x | x | x | x | x | x | Medium | Anton de Kom University of Suriname, Ministry of Spatial Planning and Environment (Geo-Spatial Intelligence Hub) | CT-USCER, Stichting SOBA | Action identified through stakeholder consultations |
| Create a network of ICT specialists across the region to work with scientists and support data management in the region | | x | x | x | x | x | Medium | Nature Conservation Division (LBB/ NCD) | CT-USCER | Action identified with the 2022 NW Atlantic Leatherback RAP (D1.1) |
| Form a regional scientific data group responsible for management and verification of information in support of this RAP | | x | x | x | x | x | High | Nature Conservation Division (LBB/ NCD) | CT-USCER | Action identified with the 2022 NW Atlantic Leatherback RAP (D1.2) |
| Secure funding for the construction and management of the data hub and for the creation of data portal | | x | | | | | High | Nature Conservation Division (LBB/ NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (D2.1) |
| Develop software/platform to enable easy access for storage and recalling of data based on data gaps | | x | x | | | | High | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (D1.3) |

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| Develop consensual guidelines specific for the collection and management of legal and IUU by-catch data throughout the region | | x | x | | | | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries | WWF-Guianas, Nature Conservation Division (LBB/NB), fishermen collectives, STIDUNAL, ALUSIAKA | Action identified with the 2022 NW Atlantic Leatherback RAP (D2.2) |
| Develop consensual guidelines for the collection and approach of other threats data | | x | | | | | **High** | Nature Conservation Division (LBB/NCD), National Environmental Authority (NMA), Ministry of Oil, Gas and Environment | Suriname Coast Guard, Maritime Authority of Suriname; Ministry of Agriculture, Animal husbandry and Fisheries (MAS), STINASU, Galibi , WWF-Guianas, Adekus-environmental sciences, CT-USCER, Maritime Authority (MAS), STIDUNAL, ALUSIAKA, Sunfo/viscol | Action identified with the 2022 NW Atlantic Leatherback RAP (D2.3) |
| Disseminate existing standardization tools known to follow international best practices | | x | x | x | x | x | **High** | Nature Conservation Division (LBB/NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (D2.4) |
| Establish standardized protocols for data collection and recording, particularly as it relates to nesting beaches to ensure that counts are accurate and comparable between year | x | x | x | x | x | x | **High** | WWF, Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname | Local communities, NGOs | Action identified through stakeholder consultations |
| Define recommendations and standardize protocols to collect tagging data | | x | | | | | **High** | Nature Conservation Division (LBB/NCD) | WWF-Guianas, CT-USCER, Stichting SOBA, Adek-milieuwetenschappen | Action identified with the 2022 NW Atlantic Leatherback RAP (D2.5) |
| Define recommendations and standardize protocols to collect data on turtles' health condition, including for stranded turtles | | | x | | | | **High** | Nature Conservation Division (LBB/NCD) | CT-USCER, Stichting SOBA, Adek-environmental sciences | Action identified with the 2022 NW Atlantic Leatherback RAP (D2.6) |

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| Develop a system to regionally collate all publications for sharing with agencies responsible for implementation of this STRAP | | x | | | | | **High** | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (D4.1) |
| Ensure that Suriname STRAP is implemented following the regional recommendations for data collection and field activities | x | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | National Environmental Authority (NMA), Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (D4.3) |
| Objective 4.2 Research, monitoring, and impact assessment | | | | | | | | | | |
| Quantify the impact of egg poaching and its threat to the long-term viability of Suriname's sea turtle populations | | | x | x | x | | **Medium** | Educational institutions, including Anton de Kom University of Suriname, Claudetta Toney University of Suriname, CT-USCER | Suriname Nature Conservation Foundation, Suriname's Forest Management Service, local communities, NGOs, international networks, Stichting SOBA | Action identified through stakeholder consultations |
| Implement a comprehensive national regional turtle legal and IUU by-catch characterization program to identify sea turtle by-catch "hot spots", including during non-nesting periods and priority opportunities for mitigation actions | | x | x | x | x | x | **High** | Educational institutions, including Anton de Kom University of Suriname, Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname, Nature Conservation Division | Local communities, NGOs | Action identified with the 2022 NW Atlantic Leatherback RAP (D3.1) |
| Assess potential impacts of long line fisheries on sea turtles in Suriname's waters | | x | | | | | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries | CT-USCER, Stichting SOBA, fishermen collectives | Action identified with the 2022 NW Atlantic Leatherback RAP (D3.3) |

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| Collect data (stock assessments, land data, morphological analysis) to inform evidence-based decisions on fisheries quotas and closed seasons | | x | x | x | x | x | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries, Department of Fisheries, academic institutions including Anton de Kom University of Suriname, Suriname's Forest Management Service | | Action identified through stakeholder consultations |
| Improve knowledge of beach dynamics and its impacts on sea turtle nesting patterns | | | x | x | | | **High** | CT-USCER | Ministry of Land Policy and Forestry Management, Education Department, Suriname's Forest Management Service, Nature Conservation Division | Action identified with the 2022 NW Atlantic Leatherback RAP (D5.2) |
| Identify the population indicators for the minimum end recovery goals for sea turtle populations | | x | | | | | **High** | CT-USCER | Stichting SOBA, WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (D5.3) |
| Prioritize collaborative sea turtle data collection and analysis of existing data | | x | x | x | x | x | **High** | Nature Conservation Division (LBB/ NCD) | WWF-Guianas | Action identified with the 2022 NW Atlantic Leatherback RAP (D5.1) |
| Use established, emerging, and innovative technology and data collection methods to assist with sea turtle nesting and in-water data collection, including unmanned aircraft systems and underwater drones | x | x | x | x | x | x | **High** | Nature Conservation Division, Ministry of Land Policy and Forestry management | Local communities, NGOs, Stichting SOBA | Action identified through stakeholder consultations |

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| Collect robust sea turtle nesting data, including but not limited to number of nests, number of successful nests, and hatchling emergence data | x | x | x | x | x | x | **High** | Nature Conservation Division, Ministry of Land Policy and Forestry management | Local communities, NGOs | Action identified through stakeholder consultations |
| Investigate impact of life history traits on conservation priorities | x | x | x | | | | **High** | TBD | | Action identified with the 2022 NW Atlantic Leatherback RAP (D5.4) |
| Conduct climate impact research to assess the effects of climate change on marine ecosystems, focusing on sea turtle migration, nesting patterns, and food availability | | | x | x | x | | **High** | Educational institutions, including Anton de Kom University of Suriname, CT-USCER, Ministry of Spatial Planning and Environment | Nature Conservation Division, Ministry of Land Policy and Forest Management, NGOs, Stichting SOBA | Action identified through stakeholder consultations |
| Conduct studies on the use of the Tijgerbank by fishers and their impact on nesting and at-sea populations | x | | | | | | **High** | Nature Conservation Division, Ministry of Agriculture, Animal Husbandry and Fisheries, academic institutions | WWF, NGOs, local communities | Action identi-fied through stakeholder consultations |
| Conduct studies to determine the most effective means to reduce the impact that fishers using Tijgerbank have on sea turtle populations | x | x | | | | | **High** | Nature Conservation Division, Ministry of Agriculture, Animal Husbandry and Fisheries, academic institutions | WWF, NGOs, local communities | Action identified through stakeholder consultations |

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| Implement satellite tracking to monitor sea turtle nesting and migration, using data to guide the establishment of marine protected areas | | | x | x | x | | High | Suriname's Forest Management Service, Anton de Kom University of Suriname, other academic institutions, CT-USCER | Local communities, NGOs | Action identified through stakeholder consultations |
| Objective 4.3 Collaboration, capacity building, and resource mobilization | | | | | | | | | | |
| Secure long-term funding to support continuous data collection and monitoring programs, ensuring sustained conservation efforts | | x | x | x | x | x | High | Nature Conservation Division, Ministry of Land Policy and Forest Management | Ministry of Agriculture, Animal Husbandry and Fisheries, Conservation International Suriname, national and international NGOs | Action identified through stakeholder consultations |
| Strengthen cross-border collaboration and information sharing between Suriname, Guyana, and French Guiana to address IUU fishing and promote coordinated conservation efforts | x | x | x | x | x | x | High | Anton de Kom University of Suriname, WWF-Guianas, CT-USCER, Stichting SOBA | | Action identified through stakeholder consultations |
| Engage academic institutions to ensure conservation management decisions are grounded in research and evidence | x | x | x | x | x | x | High | Nature Conservation Division, Ministry of Spatial Planning and Environment | Anton de Kom University of Suriname, other academic institutions, CT-USCER | Action identified through stakeholder consultations |
| Leverage existing expertise and institutional knowledge to build on past successes (and learn from past failures) rather than duplicating efforts or starting anew | x | x | x | x | x | x | Medium | Educational institutions, including Anton de Kom University of Suriname | Suriname Nature Conservation Foundation (STINASU), NGOs | Action identified through stakeholder consultations |

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| Design and pilot by-catch mitigation technologies, specifically for drift net and trawl fisheries to reduce sea turtle (and other non-target species) mortality | | x | x | x | x | | **High** | Ministry of Agriculture, Animal Husbandry and Fisheries, Department of Fisheries, academic institutions including Anton de Kom University of Suriname, CT-USCER | International networks, NGOs, Stichting SOBA | Action identified through stakeholder consultations<br><br>Action identified with the 2022 NW Atlantic Leatherback RAP (D3.2) |
| Organize a Data Science seminar series as an ongoing activity | | x | x | x | x | x | **Low** | Nature Conservation Division (LBB/ NCD), WWF Ministry of Oil, Gas and Environment, Suriname Coast Guard, Maritime Authority of Suriname (MAS), Anton de Kom University of Suriname, CT-USCER | National Environment Authority, Galibi Community, STIDUNAL, WWF-Guianas,, SUNFO/ VISCOL, fishermen collectives, STINASU | Action identified with the 2022 NW Atlantic Leatherback RAP (D4.2) |
| Objective 4.4 Conservation action and threat mitigation | | | | | | | | | | |
| Undertake a needs assessment of STRAP implementing agencies and partners to strengthen conservation efforts | x | | | | | | **High** | Nature Conservation Division, Ministry of Agriculture, Animal Husbandry and Fisheries, academic institutions | WWF | Action identified through stakeholder consultations |

# 5. CAPACITY BUILDING

| Action | Year | | | | | | Priority | Lead Agency | Other Agencies | Notes |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 - 2035 | | | | |
| Objective 5.1 Organizational and operational capacity building | | | | | | | | | | |
| Undertake a needs assessment of STRAP implementing agencies and partners to strengthen conservation efforts | x | | | | | | High | Nature Conservation Division, Ministry of Agriculture, Animal Husbandry and Fisheries, Suriname's Forest Management Services, Suriname Nature Conservation Foundation (STINASU), Foundation Sustainable Nature Conservation Alusiaka (STIDUNAL) from Galibi | WWF, Conservation International, Anton de Kom University of Suriname | Action identified through stakeholder consultations |
| Increase operational capacity by upgrading field infrastructure (e.g., ranger stations), acquiring additional vehicles and vessels to support faster, more flexible, and wider patrol coverage, including across multiple-use management areas, and securing monitoring equipment (e.g., drones, field gear) | | x | x | x | x | x | Medium | Nature Conservation Division, WWF | Suriname Conservation Foundation (SCF) now, and later a national Trust Fund | Action identified through stakeholder consultations<br>Action identified with the 2022 NW Atlantic Leatherback RAP (C1.2) |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Expand ranger staffing, increase the number of checkpoints, and establish additional outposts to maximize field presence | | x | x | x | x | x | High | Nature Conservation Division, Foundation Sustainable Nature Conservation Alusiaka (STIDUNAL) from Galibi | WWF, Conservation International, Amazon Conservation Team Suriname, Green Heritage Fund Suriname | Action identified through stakeholder consultations |
| Empower local communities by building capacity to monitor compliance with conservation regulations, while establishing better lines of communication and reporting | | x | x | x | x | x | High | Nature Conservation Division, Foundation Sustainable Nature Conservation Alusiaka (STIDUNAL) from Galibi | WWF, Conservation International, Amazon Conservation Team Suriname, Green Heritage Fund Suriname | Action identified through stakeholder consultations |
| Objective 5.2 Financial resource mobilization | | | | | | | | | | |
| Secure increased and sus-tained budget allocations to cover essential opera-tional costs, staff salaries and resource maintenance | | x | x | x | x | x | High | Ministry of Agriculture, Animal Husbandry and Fisheries, Ministry of Spatial Planning and Environment, Ministry of Land Policy and Forest Management | | Action identified through stakeholder consultations |
| Objective 5.3 Community and livelihoods development | | | | | | | | | | |
| Strengthen sustainable alternative livelihood programs that extend beyond the nesting season, ensuring year-round income stability for local communities | | x | x | x | x | x | Medium | Foundation Sustainable Nature Conservation Alusiaka (STIDUNAL) from Galibi, Galibi Village Council | WWF, Green Heritage Fund Suriname, Ministry of Agriculture, Animal Husbandry and Fisheries in Suriname, tour operators, NGOs | Action identified through stakeholder consultations |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Foster strong, trust-based relationships with local communities to promote shared stewardship of nesting areas and the protection of sea turtle populations | x | x | x | x | x | x | **High** | Nature Conservation Division | Supported by Suriname Conservation Foundation (SCF), and later a national Trust Fund | Action identified through stakeholder consultations |

UN environment programme

WWF

MINISTERIE VAN GRONDBELEID EN BOSBEHEER

L B B NATUURBEHEER

MINISTERIE VAN OLIE, GAS EN MILIEU

WIDECAST
Wider Caribbean Sea Turtle Conservation Network