



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Third Annual Report **[Translation]**

Directory

Country	Costa Rica
Agency or institution responsible for preparing this	National System of Conservation Areas, Ministry of Energy and the Environment
Name of the person in charge of this form	Marco Vinicio Araya Barrantes
Address	400 meters north of RACSA, San José
P.O. Box	Apdo 10104-1000, San José Costa Rica
Telephone(s)	(506) 256-0917
Fax	(506) 257-9722
E-mail	marco.araya@sinac.go.cr
Website	www.sinac.go.cr

Others who participated in the preparation of this form

<input type="checkbox"/>	Name	Affiliation	Contribution/ Topic	Telephone	E-mail
	Jenny Asch corrales	National System of Conservation Areas	All	(506) 256-0917	jenny.asch@sinac.go.cr
	Juan Sánchez	National System of Conservation Areas	All	(506) 256-0917	juan.sanchez@sinac.go.cr
	Didiher Chacón	ANAI	All	(506) 224-3570	tortugas@racsa.co.cr
	Roxana Silman	Caribbean Conservation	All	(506) 2976576	rox_silm@ccturtle.org
	Rodney Piedra	MINAE, WCS project- Langosta Beach National Marine Park Las Baulas		(506) 283 9725 (506) 236 6017	baulasrp@gmail.com
	Laura Brenes	Administrator RNVS Ostional		(506) 682-0400/863-2914	sobrecha@yahoo.com
	Alonso Vindas	Administrator RNVS Caletas-Ario		(506) 863-2914	jvindas@costarricense.cr
	Julían García	Administrator RNVS Camaronal		(506) 659-9505	jugargi@gmail.com
	Marvin Mora	INCOPESCA	Fisheries	(506) 661-0846	marvinmorah@yahoo.es
	Mauricio Méndez	Coastal Marine Resources Program Coordinator, ACT		(506) 659 9505	delphimendez@costarricense.cr
	Fabián Andreés Sanchez	Friends of the Osa	Ecologist	(506) 838 9171	fasanchez@racsa.co.cr



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Focal Point

Institution: Ministry of Energy and the Environment

Name: Marco Vinicio Araya Barrantes

Signature: _____

Date: Mayo, 2007

1. Biological Information

1.1. Species present

Species	Pacific Ocean	Atlantic Ocean	Caribbean Sea
	Phase(s)	Phase(s)	Phase(s)
<i>Lepidochelys olivacea</i>	R/F/M		
<i>Lepidochelys kempii</i>			
<i>Dermochelys coriacea</i>	R/F/M		R/F/M
<i>Eretmochelys imbricata</i>	R/F/M		R/F/M
<i>Chelonia mydas</i>	R/F/M		R/F/M
<i>Caretta caretta</i>			R/F/M

Phases: R = Reproduction; F = Foraging; M = Migration; D = Phase Unknown

1.2. Important sites for sea turtle conservation

	Name of Site	Specie(s)	Season	Geographic Location (Lat/Long)	Area (km or ha, if applicable)	Protection Category	Observations*
Nesting Sites	Tortuguero - Parismina - Pacuare	Cc	May	N10°35.51, O83°31.40 to N10°19.04, O83°21.39	50 km	25 km within Tortuguero National Park	See attached references: Troëng et al. 2004; Troëng y Rankin 2005; Troëng et al. (2006 www.cccturtle.org Report)
		Cmm	June-November				
		Dc	February-July				
		Ei	April-October				11-100 nests



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Matapalo Beach, Guanacaste ¹	Cma	September-March			None	Source
	Dc	October-March				
Nombre de Jesús and Zapotilla ²	Cma	September-March			None	Source
	Dc	October-March				
Playa Grande*	Dc	October-March	N10°22'11.21" O85°52'10.73"		National Marine Park Las Baulas	Idem
	Lo	June-December				
Langosta Beach (P.N.M.Baulas)*	Lo	June-December	N10°16'21.39" O85°51'8.32"		National Marine Park Las Baulas	Piedra y Velez
	Dc	October-March				
Camaronal Beach ^{1****}	Lo	June-December			R.N.V.S. Camaronal	Occasional olive ridley mass nesting events presented. PRETOMA 2006. 5001-10000 nests
	Dc	October-March				0-10 nests
	Cma	September-March				
Islita-Pilas Beach ¹	Lo	June-December				
Bejuco Beach ¹	Lo	June-December		7Km	None	PRETOMA
San Miguel Beach ^{****}	Lo, Dc	June-December		2.5 Km	None	PRETOMA Lo 101-500 nests, Dc 0-10 nests
Coyote Beach ¹	Lo, Dc	June-December		5 Km	None	PRETOMA Lo 101-500 nests, Dc 0-10 nests
11. Ario – Caletas – Bongo Beaches ^{2 ****}	Lo	June-December		7.5 Km	RNVS Caletas-Ario	PRETOMA 501-1000 nests
	Cma	September-March		7.5 Km	RNVS Caletas-Ario	0-10 nests
	Dc	October-March		7.5 Km	RNVS Caletas-Ario	11-100 nests



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

12. Junquillal Beach****	Lo	June-December	10°09'42"N, 85°48'32"O	5.3 Km	None	Tourist beach. Protected by WWF Project and locals. Lacks state presence. Used to be threatened by 100% harvesting of eggs, now threatened by development.
	Cma	September-May				
	Dc	October-March				
Nancite Beach	Lo, Dc, Cm	June-December	309.564 N 350.531 E	0.8 km	National Park	Protected beach with restricted access. Mass nesting (Lo), Dc 0-10 nests, Cm 0-10 nests
Naranjo Beach	Lo	June-December	306.841 N 354.109 E	3 km	National Park	Tourist Beach, with protection 101-500 nests
	Dc	October-March				11-100 nests
Ostional	Lo	June-January	85 43' 50" W, 10 01' 00" N y 85 40' 40" W, 09 54' 30" N	7 km	National Wildlife Refuge	(Roldan, V. Solis, D. Orrego C. et al)
	Cma	September-March				Quiros et al
	Dc	October-March				Quiros et al
Gandoca	Dc	February-July	N9.60164 W82.60834	11 km	RNVS	Protection in hands of locals and NGO's, little State protection. Chacon et al 2006, www.anaicr.org
	Ei	April-October				11-100 nests
	Cmm	June-November				
Cahuita	Dc	February-July	N9.73221 W82.81706	14 km	National Park	Very small populations due to hunting and illegal poaching of eggs within the AAPP. Chacon et al 2006, www.anaicr.org
	Ei	April-October				11-100 nests
	Cmm	June-November				
	Cc	May				
Isla Uvita	Ei	All year		1 km (perimeter)	National Monument	Nesting of one or two individuals, adults and juveniles present in surrounding reef. Chacon et al 2006, www.anaicr.org 0-10 nests



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Playa Negra de Puerto Viejo	Dc	February-July		4 km	None	Threatened by tourist development and by agricultural contamination from banana plantations. Chacon et al 2006, www.anaicr.org
	Ei	abril-octubre				11-100 nests
	Cmm	June-November				
	Cc	May				
Hermosa Beach-Punta Mala (Central Pacific)	Lo	June-December		9 km	National Wildlife Refuge	Hatchery Project (ASVO)
Cocos Beach	Lo	June-December		400 m	RNVS San Lucas Island	Solitary Nesting
Rey Beach ³	Lo	June-December		14 km	PN	Problems with egg poaching
Barú Beach	Lo	June-December			National Wildlife Refuge	Rescue Project (ASANA)
Portalón-Matapalo-Guapil (Central Pacific)	Lo	June-December			National Wildlife Refuge	
Ballena Beach	Lo				National Marine Park Ballena	
Carate, Pejeporro, Río Oro and Piro Beaches	Lo, Cma, Dc, Ei	June-December		12 km	RNVS	Sanchez, 2006
	Cma	June-December				
	Dc	October-March				
Preciosa Beach-Platanares	Lo	June-December			RNVS	Friends of Osa
	Cma	June-December				
	Dc	Octubre - marzo				
Matapalo Beach	Lo	June-December			None	
	Cma	June-December				



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

		Dc	October-March				
	Punta Banco	Lo	June-December				PRETOMA 101-500 nests
		Cma	June-December				0-10 nests
		Dc (NONE) Ei	June-December				0-10 nests
	Cabuyal Beach	Lo	June-December			None	
	Punta Mala, southern zone	Lo	June-December		3 km	Sierpe Térraba Wetland.	
	Madrigal, Sirena, Llorona Beaches Corcovado	Lo	June-December		40 km	PN Corcovado	ACOSA
		Cma	June-December				
		Dc	Octubre - marzo				
Foraging Site	Gandoca/Manzanillo	Ei / Cm		N9.64194 W82.64237	5000 ha	RNVS	Open access to boats, some carry out poaching. www.anaicr.org , Chacón et al 2006
	Cahuita	Ei / Cm		N9.75054 W82.81296	600 ha	PN	Open access to boats, some carry out poaching
Migratory Routes	PENDING						Greens and Hawkbills: www.cccturtle.org Leatherbacks in Caribbean: NOAA 2007 Transatlantic initiative WWF Pacific Leatherbacks: TOPP Turtle race Olive Ridleys: www.tortugamarina.org

Data taken from: Piedra and Velez 2004; Paladino et al., 2004; Paladino et al., 2003; Reina et al., 2002

** Data taken from:

*** Data taken from: Quirós, 2004. Unpublished. Only data from 2004 – 2006 nesting season.

**** Data taken from: PRETOMA, 2005. Unpublished.

***** Data taken from: Francia, 2005. Unpublished.

1. There are no research projects or collection of long term data.
2. Non-permanent research projects.
3. Presence of research projects in the past, but no longer are operating due to lack of funding.
4. Nest protection projects exist and data collected refers to the number of eggs relocated to the hatchery and number of hatchlings.



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

2. Information regarding the use derived from sea turtles

	Types of use	Specie	Products	Ocean Basin	Origin *		Estimated annual quantity	Information source	Actions
					L	I			
Consumptive Use	Poaching and Hunting	Ei	Carapace-scales (crafts, rooster spurs)	Caribbean		I	No. of turtles unknown. Hundreds of items	Personal data Chacón 2001	Sporadic confiscations
			Eggs			I	100% of eggs outside of AAPP 0 % of marked nests in 2004	Harrison et al. 2005b	Patrols by Park Guards, Coast Guards monitoring of poaching by CCC and the Tortuga Feliz (Barra Pacuare)
		Ei	Carapace-scales (crafts, rooster spurs)	Pacific		I	No. of turtles unknown. Hundreds of items	Personal data Chacón 2001	Occasional confiscations
		Dc	Eggs	Caribbean		I	Thousands of eggs both outside and within the AAPP's	Chacón 2006 CCC, Caño Palma, Parismina, Pacuare and Stanley Rodríguez Personal data	Beach protection in Tortuguero, Parismina, Pacuare, Matina, Cahuita and Gandoca Occasional confiscations
	Meat and oil for medicinal purposes				I	Females sacrificed from March-May, 2006 1 turtle in 2005, 11.8 % of marked nests in 2004	Harrison et al. 2005a	Sporadic confiscations	
		Cm	Meat	Caribbean		I	Hundreds of Kg's	Personal data	Sporadic confiscations
						I	~1,000 turtles?	Harrison et al. 2005b (See CCC 2006 Report)	Patrols by Park Guards, Coast Guards monitoring of poaching by CCC
			Eggs			I	Thousands of eggs	Personal data ⁹⁰	Sporadic confiscations
						I	6.3 % of marked nests in 2004	Harrison et al. 2005b	Patrols by Park Guards, Coast Guards monitoring of poaching by CCC
		Lo	Eggs	Northern Pacific (RNVS Ostional)	X		6 million eggs	Chaves et al 2005b. (2006 Report)	Article 55 of Law N° 7064- Promotion of Farming Production (FODEA) of May of 1987. Article 3 of Law N° 7149 of June 27th, 1990 reforming article 28 of Law N° 190 - Fisheries and Maritime capture.



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

		Lo	Eggs	Pacific (other areas)		x	ND	Park Guards	Control and protection, present during nesting season
	Capture	Ei	Capture of individual juveniles for ornamental use in private aquariums	Caribbean (mainly Limón)		X	Aprox. 30 individuals /year	D. Chacón	Rescue, Rehabilitation and liberation on behalf of ANAI and the Puntarenas Marine Park
Non- Consumptive Use	Research	Cm/Dc/ Ei	Monitoring, hatcheries	Caribbean	X			Research permits approved by Conservation Areas	Regulation of public use by MINAE, regulates visitation
	Tourism	Dc/Ei/C m	Nesting Observation	Caribbean	X		33000 visitors	Harrison et al. 2005b, Visitation Statistics from SINAC	Regulation of public use of the ASP of MINAE, regulate visitations
	Tourism	Dc	Nesting observation	Caribbean	X		500 people	Rodríguez et al 2006	Regulation N° 29019- MINAE for use of Gandoca Beach
	Environme ntal Education, Training	Dc/Ei/ Cm	Awareness, non extractive alternatives, hatcheries management. LTF Environmental Education Program	Caribbean	X				
	Scientific	Lo/Ei/Dc /Cm	Blood samples, monitoring, hatchery management	Pacific	X		ND	Plotkin, P.T. Et al. 1995. Kalb, H.J. 1999	Complete control within AAPP and partial control within other areas
	Tourism	Ei/Dc/C m/Lo	Observation of nesting and arribadas	Pacific	X			Personal data	Partial control in some AAPP
	Environme ntal Education, Training	Dc/Ei/C m	Awareness, non extractive alternatives, hatcheries management, release programs	Pacific	X				

* L = legal, I = illegal



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

3. Main threats

3.1 Habitat and other threats

Threats	Specie(s) Affected	Size of Impact	Geographic Region(s) Affected	Information Source	Actions
Light contamination	Cc, Cm, Dc, Ei, Lo	Medium	Caribbean & Pacific	Harrison et al. 2005b.	Change public lighting to sodium lighting through ICE, local public and hotel awareness
Wood debris on the beach	Dc, Ei, Cm, Cc, Lo	Significant	Caribbean & Pacific	Reports ANAI www.anaicr.org, Juan Sánchez (obs. Pers)	Manual beach cleaning by NGOs General beach cleaning at least once a year. In Hermosa beach the collection of pieces of fallen wood is permitted for wood making.
Anthropogenic solid wastes	Dc, Ei, Cm, Cc, Lo	Medium	Caribbean & Pacific	Reports ANAI www.anaicr.org	Manual beach cleaning by NGOs
Oceanic erosion	Dc, Ei, Cm, Cc	Significant	Caribbean & Pacific	Reports ANAI www.anaicr.org	Nest relocation and hatchery management
Coastal erosion	Dc, Ei, Cm, Cc, Lo	Medium	Caribbean & Pacific	Personal data	Nest relocation and hatcheries
Damage to coral reefs	Ei, Cm	Significant	Southern Caribbean	Reports ANAI / www.anaicr.org	None
Tourism development	Dc, Ei, Cm, Cc, Lo	High	Caribbean & Pacific	Reports ANAI, Confiscation	EIA, Declared ASP.
Motorized vehicles in the ocean	Lo, Dc, Cm	ND	Pacific Coast of Costa Rica	Orrego Carlos Mario. 2001, Arauz 2000, Chavez, 2002, Personal observations	Implement and develop ACG marine strategy to restore and effectively conserve the 43,000 ha. of protected marine area
Motorized vehicles on the beach	Lo, Dc, Cm	ND	Pacific Coast of Costa Rica	Personal observations	Patrols for protection and control
Predation of nests and hatchlings by wildlife	Lo	Moderate	Naranjo Beach, Nancite Beach, Hermosa Beach, San Lucas Island	Eckrich Caren, Owens David, Juan Sánchez	Patrols for protection and control
Affects to other associated habitats (over fishing, destruction of and extraction in reefs and coves)	Lo, Dc, Cm, Ei	ND	Northern and Central Coast of the Pacific Coast, Costa Rica	Spotila, JR. Et al. 2000. Valverde, R.A et al. 1998. Personal data	Implement and develop ACG marine strategy to restore and effectively conserve the 43,000 ha. of protected marine area



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

3.2 Capture (Intentional/incidental)

Threats	Specie(s) Affected	Size of Impact	Geographic Region(s) Affected	Information Source	Actions
Capture in the ocean	Cm	~1,000 turtles?	Caribbean	ANAI	Law 8325 of 2002
	Ei	?	Caribbean	ANAI	Law 8325 of 2002
Capture of sea turtles on the beach	Cm	Approximately 1000 turtles per year	Caribbean	Harrison et al 2005b (See citation)	Law 8325 of 2002
	Dc	2 turtles in 2006	Caribbean	National news	Law 8325 of 2002
	Ei	More than 24	Caribbean		Law 8325 of 2002
Egg harvesting	Cm	6.3 % of marked nests in 2004	Caribbean	Harrison et al 2005b (see CCC)	Law 8325 of 2002
	Dc	11.8% of marked nests in 2004	Caribbean	Harrison et al 2005b	Law 8325 of 2002
	Ei	0 % of marked nests in 2004	Caribbean	Harrison et al 2005b Chacón	Law 8325 of 2002
	Lo	High	Pacific	Personal data Arauz 2001	Laws 8325, 7317
	Dc	Low	Pacific	See Piedra, Spotila and others. Quirós 2006.	
Gillnet Fisheries	Ei/Cm	Medium	Northern and Southern Caribbean	Interviews	None
	Lo, Cm	ND	Northern Pacific		Implement and develop ACG marine strategy to restore and effectively conserve the 43,000 ha. of protected marine area
Manual direct capture or with harpoon	Ei/Cm	Medium	Northern and Southern Caribbean	Interviews	None
Incidental *1	Lo, Cm, Dc, Ei	High	Northern and Central Pacific	Arauz 1997, Arauz, 2000. Orrego 2002, Chávez, 2002	
Hunting	Lo	High	Northern and Central Pacific	Orrego pers.com.	
Artesinal fishing with bottom lines	Lo, Cm, Dc	ND	Northern Pacific		Implement and develop ACG marine strategy to restore and effectively conserve the 43,000 ha. of protected marine area
Bottom trawl fisheries	Lo, Cm	ND	Northern Pacific of Costa Rica		Implement and develop ACG marine strategy to restore and effectively conserve the 43,000 ha. of protected marine area



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Gillnet fisheries	Lo	ND	Pacific	Fishermen Bio. Randal Arauz of PRETOMA	Legislation
Artesinal fishing with bottom lines	Lo	ND	Pacific	Fishermen Bio. Randal Arauz of PRETOMA	Legislation
Longline fisheries	Lo	ND	Pacific	Fishermen Bio. Randal Arauz of PRETOMA	Legislation
Bottom trawl fisheries	Lo	ND	Pacific	Fishermen Bio. Randal Arauz of PRETOMA	Legislation



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

4. Legal Framework

4.1. International instruments

Treaty, Convention, Agreements, Memorandum of Understanding	Year signed and/or ratification
1. Convention on International Trade in Endangered Species of Wild Flora and Fauna.	Ratified 22/10/74
2. Convention Concerning the Protection of the World Cultural and Natural Heritage.	Law 5980, 16/11/76
3. Convention for the Protection of Flora, Fauna and Scenic Beauties of the Americas.	Law 3763, 19/11/66
4. Convention for the Conservation of the Biodiversity and Protection of Wilderness Areas in Central America.	Ratified 07/12/94
5. The Convention on Wetlands of International Importance especially as Waterfowl Habitat (RAMSAR).	Ratified 20/06/91
6. Convention on Biological Diversity (Biodiversity Convention).	Ratified 24/08/94
7. Constitutive Convention of the Latin American Organization for Fisheries Development (OLDEPESCA), and its amendments I and II signed on October 29th, 1982.	Ratified 26/09/96
8. Convention on Fishing and Conservation and Living Resources of the High Seas.	Law 5032, 27/07/72
9. Cartagena Convention for the protection and development of the marine environment of the Wider Caribbean.	Law 7227, 22/04/91
10. Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere.	
11. United Nations Convention on the Law of the Sea.	Law 4940, 12/01/72
12. FAO Fisheries Department Code of Conduct for Responsible Fisheries .	Decree 27919-MAG, 14/06/99
13. Constitutive Convention of the Central American Interparliamentary Commission on the Environment and Development.	Law 7226, 14/05/91
15. Protocol Concerning Co-operation and Development in Combating Oil Spills in the Wider Caribbean Region .	Law 7227, 22/04/91
16. Convention on the Territorial Sea and Contiguous Zone, signed in Geneva April 29th, 1958.	Law 5031, 12/08/72
17. Cooperative Agreement for the Conservation of Sea Turtles of the Caribbean Coast of Costa Rica, Nicaragua and Panama.	
18. Agreement on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter.	Law 5556, 26/08/74
19. Convention on the Continental Shelf	Law 4936, 28/12/72
20. United Nations Framework Convention on Climate Change	Law 7414, 13/06/94
21. Inter-American Convention for the Protection and Conservation of Sea Turtles.	Law 7906, 24/09/99



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

4.2. National legislation

Type and name of legal instrument (No.)	Description (Range of application)	Sanction(s) Imposed
1. Political Constitution.	National	
2. Law of the Creation of National Park Services (Law No.6084 August 17 th , 1977).	National	
3. Wildlife Conservation Law (Law No 7317 October 21st, 1992) and its regulation.	National	
4. Biodiversity Law (Law No.7788 April 30th, 1998).	National	
5. Law of the Maritime Terrestrial Zone (Law No.6043 March 2nd, 1977)	National	
6. Organic Law of the Environment (Law No.7554 October 4 th , 1995)	National	
7. Forestry Law (Law No.7575 February 5 th , 1996)	National	
8. Law of the Creation of the Costa Rican Fisheries and Aquaculture Institute (INCOPECSA) (Law No. 7384 March 16 th , 1994).	National	
9. Soil Use, Management and Conservation Law (Law No. 7779 April 30 th , 1998).	National	
10. Executive Degree No28203-MINAE-MAG (authorizes the harvesting and commercialization of Olive Ridley eggs (<i>Lepidochelys olivacea</i>) layed within the Ostional National Wildlife Refuge to ADIO (The Association for the Integral Development of Ostional).	Ostional National Wildlife Refuge	
11. Specific legislation for each Wildlife Protected Area	Each Wildlife Protected Area	
12. Regulations on research	National	
13. Law of the creation of the National Coast Guard Service N° 8000	National	
14. INCOPECSA Administrative board agreement No.051-1995	Prohibits commercial fishing using all types of nets, dragnets, and trawls in river mouths.	Fine of 20 to 60 times base salary
15. INCOPECSA Administrative board agreement No.146-2000	Regulates the line size and the number of hooks for small, medium and large scale artisanal commercial fleets.	Fine of 20 to 60 times base salary
16. INCOPECSA Administrative board agreement No.252-2003	Obligates longline fleets to use circular hooks.	Fine of 20 to 60 times base salary
17. INCOPECSA Administrative board agreement No.439-2003	Obligates sport fishing fleets to use circular hooks.	Fine of 20 to 60 times base salary
18. INCOPECSA Administrative board agreement No.439-2003	Obligates sport fishing fleets to use circular hooks.	Fine of 20 to 60 times base salary
19. Law 8325. Law of the Protection, Conservation and Recuperation of Sea Turtle Populations (Repealed with the approval of Law 8436).	Use of Turtle Excluder Devices (TED) is mandatory for shrimp trawler fleets	Fine, prison and cancellation of fisheries license.
20. Law 8436. Law of Fisheries and Aquaculture.	Art.140. Prohibits the capture, injury, killing, transport or commercialization of chelonians. Art.149. Use of Turtle Excluder Devices (TED) is mandatory for shrimp trawler fleets.	3 months to 2 years in prison, fine of 40 to 60 times base salary. /Fine of 5 to 15 times base salary.



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

4.3. Indicate any legal instruments that are currently in the process of being approved.

- Regulation for Public Use of the RNVS Ostional (Approved)
- RNVS Ostional Management Plan
- RNVS Marine Management Plan
- Regulation of the Fisheries and Aquaculture Law.
- Actualization of the RNSV Gandoca-Manzanillo Management Plan.
- Draft decree to expand Cahuita National Park
- Expansion of Camatonal Wildlife Refuge (signed, but still needs to be published)
- New Wildlife Refuge Caletas-Arío was declared (signed, but still needs to be published)
- Resolution of the hatchery management protocol, SINAC

4.4. Public and private institutions involved in sea turtle conservation

National System of Conservation Areas	Protect marine protected areas and nesting sites for sea turtles. Facilitate, promote and execute scientific research activities and environmental education
University of Costa Rica	Research
National University/Wildlife Masters Program	Research
National Fisheries and Aquaculture Institute	Authorizes, regulates and supervises different types of fisheries in the area
Ministry of Public Security: National Coast Guard Service (SNG) and Police Force	Duty to protect and carry out established legislation in the country. The SNG also carries out research projects and environmental education.
ANAI/WIDECAST-CR	Research, monitoring, training, environmental education, control
Caribbean Conservation Corporation	Monitoring, research, lobby, environmental education
PRETOMA	Research and control
WWF	Research and financing
National Sea Turtle Network	Follow-up, policies, strategies.
CEDARENA	Analysis and legal support
MARVIVA	Control, protection and legal support
ASVO	Research, control, protection and environmental education
WCS	Financial support
Leatherback Trust	Research, financial support
FoundationTuva	Research
Piro	Research
Salvamento Internacional de la Tortuga del Mar	Research
Forensic Science Laboratory-Judicial Power	Chemical-biochemical analysis, legal and investigative support.
Marine Park	Research
ECOTEACH	Research
La Tortuga Felliz - Pacuare	Research, protection and environmental education
Estación las Tortugas	Research
PROVCA	Voluntary enforcement
Hacienda Barú/ASANA	Research, control and protection
Foundation for Harmony between Conservation and Development (FUNDECODES)	Finance, administration
University of Louisiana	Research



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

5. Exceptions

The only human activities permitted in relation to sea turtles are: a) the activity of scientific research as a information generator for biological, ecological, and behavioral knowledge, among others, and to facilitate the decision making process for a better management of and improved conditions for these species, b) tourist activities related to the observation of these species and their nesting process, c) environmental education in local communities as well as for visitors and d) the harvesting and commercialization of olive ridley (*Lepidochelys olivacea*) eggs within the Ostional National Wildlife Refuge by the Association for the Integral Development of Ostional (ADIO). On February 23rd, 2007 the 5 Year Plan for Harvesting Olive Ridley Eggs in the RNVS Ostional was signed and was made official by way of an administrative resolution.

The current legislation explicitly prohibits the possession, hunting, fishing and harvesting of sea turtles, their products and sub-products. The importation and exportation is also prohibited of these species, which are included in Appendix I, II and III of CITES as well as in the Convention on Migratory Species. The commercialization and transport of sea turtle products and sub-products is illegal throughout the entire National territory.

6. Conservation Efforts

6.1 General description of the sea turtle protection and conservation program

Las Baulas National Marine Park - Playa Grande sector (Leatherback sea Turtle Project): Joint project between the Ministry of Energy and the Environment, Drexel University (Philadelphia USA), Purdue University (Indiana USA) and the Leatherback Trust. Protected species are *Dermochelys coriacea* (main species), *Lepidochelys olivacea* and *Chelonia mydas agassizii*. Objectives: to understand the population dynamics of the leatherback turtle. To help increase base line data in order to develop a long term Sea Turtle Conservation and Management Plan. To develop an attainable growth model for sustainable use as the key to economic development within the National Park. Elucidate as to the physiological and behavioral roles of leatherback turtles in determining their functional niche in the oceanic ecosystem. This project has been up and running for 17 years. The most relevant activities are: hatchery operation as a conservation strategy, tagging, registry of biometric data, ecological studies, nest excavation to determine hatching and emerging success. Park guards are in charge of nest protection and nesting area, control, attending tourists and environmental education. A recycling project is also present with the goal of maintaining nesting areas. Contact information: Dr. James Spotila, main researcher and president of the Leatherback Trust, tel: (1) 215 895 2099), Dr. Frank Paladino, main researcher and Pilar Santidrian, researcher, Biol. Elizabeth Vélez, Goldring Biological Marine Station Tel: (506) 653 0635, e-mail: evbaulas @ Yahoo.com, Biol. Rotney Piedra, Las Baulas National Marine Park Administrator Tel:, (506) 653 0470, e-mail: baulasrp@yahoo.com.



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

The Las Baulas Marine Park Management Plan was approved and made official, the majority of the management strategies revolve around the protection and conservation of sea turtles, especially the leatherback turtle.

Ostional National Wildlife Refuge (UCR Project): Project lead by the University of Costa Rica. Species protected: *Lepidochelys olivacea* (main species) and *Dermochelys coriacea*. Objectives: To determine the population trends for the olive ridley in both mass nesting (arribadas) and solitary nesting. To analyze sea turtle mortality at different life stages and their causes. Determine spatial and temporal nesting patterns and their presence in hatching success. Dr. Douglas Robinson began the research in 1971 and it has been continued under the School of Biology of the University of Costa Rica and in collaboration with the Association of the Integral Development of Ostional. The most relevant activities include a registry of daily nesting activities along the 7 km of beach and the fate of each nest. The size, duration and extension of each arribada phenomena is measured. The effect of the egg harvesting and the percentage of turtles injured by nets and hooks getting caught on them is determined. In addition, the density of nests on the beach, their status and hatching success is also measured. (G. Chaves com. pers). Contact: Biol. Gerardo Chávez; Tel: (506) 682 0400, (506) 207 5966.

Since 2000, a new branch of research within the RNVSO was initiated, looking at both the natural and anthropogenic causes of the mortality of sea turtles found dead at RNVSO, classifying the cadaver according to the state of decomposition in which it was found and later performing a necropsy. Additionally, samples are taken for future lab analysis from those individuals that are in a viable condition for a histopathological, bacteriological and parasitological analysis. During 2004, new research was initiated to find out the occurrence of fibropapillomatosis in the nesting population during the arribadas in Ostional. (C. Orrego com. Pers). Contact person: M.Sc. Carlos Mario Orrego V. (506) 841 2246 (506) 682 0400 (506) 686 4970, carlos.orrego@sinac.go.cr, carlosmarioo1@yahoo.com.mx.

Since 2006, Dr. Roldan Valverde from the University of Louisiana in partnership with MINAE/SINAC began a research project on monitoring olive ridley (*Lepidochelys olivacea*) mass nesting sites, applying the transect methodology of Gates. This project includes the three main countries in the world that have mass nesting; Mexico, India and Costa Rica. This methodology allows knowing the true number of turtles that nest during their reproductive year. The contact person is M.Sc. Carlos Mario Orrego V. (506) 841 2246 (506) 682 0400 (506) 686 4970, carlos.orrego@sinac.go.cr, carlosmarioo1@yahoo.com.mx and Dr. Roldan Valverde. Office: 985-549-3029, Fax: 985-549-3851, e-mail: roldan.valverde@selu.edu.

Similarly since 2005, the leatherback (*Dermochelys coriacea*) and black turtle (*Chelonia mydas*), monitoring program began that involves estimating the number of nesting females, relocating eggs with a high risk of not hatching, and excavate these nests and calculate their hatching and emerging success. It includes community tourism and volunteer program that helps implement the project by providing home stays from families within the community, thus providing an important effort in conservation and management, education, and cultural exchange. Contact: Biologist Didiher Chacon of ANAI and Wagner Quiros.



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Junquillal Beach. Conservation project for the leatherback turtle (*Dermochelys coriacea*) headed by WWF Central America. From 2001-2004, Gabriel Francia, PRMVS student from the National University researched the importance of this unprotected beach for *Lepidochelys olivacea*, *Chelonia mydas agassizii* and *Dermochelys coriacea* nesting and its threats (Masters Thesis). Since 2004, WWF together with the local community began a conservation project for its three species, emphasizing *D. coriacea*. Permanent activities carried out are environmental education, training, sea turtle protection and hatcheries with temperature and humidity control during the dry season and social activities that link conservation to the well being of the community. The project is lead by approximately 90% local personnel (from Junquillal) and with the participation of the all the different organized local groups. Contact person: M. Sc. Gabriel Francia, Playa Junquillal, Santa Cruz, Gte. (506) 658 83 22, larusdos@yahoo.com.ar.

Sea Turtle Restoration Program- Playa San Miguel RNVS Caletas-Arío and RNVS Camaronal (Northern Pacific) and Punta Banco (Southern Pacific): Two conservation projects lead by the Sea Turtle Restoration Program (PRETOMA). Species protected: *Lepidochelys olivacea*. Objectives: Intervene in the uncontrolled and illegal egg poaching through a Conservation Program that involves coastal community members by offering jobs, responsibilities, technical training and education, and integrating community development with the conservation of natural resources in a long term Plan (Arauz 2001). Project has been running for 4 years in San Miguel and in Punta Banco for 6 years. Most relevant activities: Hatchery operation, excavation of nests to determine percentages of hatching and emerging success, nest protection, tagging and compiling biometric data. Contact persons: Biol. Randall Arauz president PRETOMA y Biol. Isabel Naranjo PRETOMA. Tel: (506) 236 6017

Playa Hermosa National Wildlife Refuge (includes Punta Judas): Joint project between the Environmental Department of the Coast Guard Services and the Ministry of Energy and the Environment. Species protected: *Lepidochelys olivacea*. Objectives: To conserve and protect the turtle and reduce egg poaching to minimum levels. The project has been in effect for 5 years and its most relevant activities are: protection of nests and nesting area, hatchery management as a conservation strategy, compile biometric data, tagging, excavation of nests to determine percentages of hatching and emerging success and assist other research projects, project carried out in 2001-2002. Contact Person: Coast Guard Services and Alejandro Sotela, Tel (506) 286 6880. Research project is headed by ASVO on hatchery management, biometrics, and nest temperatures. Contact: Luis Matarrita, tel (506) 258-4430. Control and protection programs are covered by the Coast Guards, MINAE, ASVO, and COVIRENAS.

Barú National Wildlife Refuge (Olive ridley restoration project in Barú beach): Project headed by the Association of Friends of Nature of the Central and South Pacific (ASANA). Species protected: *Lepidochelys olivacea*. Objectives: To protect nesting sea turtles in the Refuge, their nests and nesting area, in addition to carrying out environmental education activities. The project has been running for 15 years. Among their most relevant activities are hatchery management, excavation of nests to determine percentages of hatching and emerging success, beach patrol, hatchling release and environmental education. (J. Ewing 2002, com



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

pers.). Contact persons: Jack Ewing (Administrator Barú) and Franklin Sequeira (ASANA) tel: (506) 787 0254

Portalón-Matapalo Project. Project headed by a group of community members. Mrs. Flor Madrigal and Matilde Pérez Rodríguez, 15 years old, are recognized as the project leaders. Species protected: *Lepidochelys olivacea*. Objectives: To develop environmental education activities and protect nests in hatcheries. Contact persons: Mrs. Flor Madrigal and Matilde Pérez. Tel: (506) 771 3726

Project in Playa Piro on the control and protection of *L. olivacea*.

Through Friends of the Osa, the Sea Turtle Conservation Program of Osa was initiated in 2005 (www.osaseaturtles.org) with the main objective of providing continuity to past efforts on conserving these reptiles, as well as unifying and standardizing the techniques and methods used for this purpose. The beaches monitored by this program are Carate, Rio Oro, Pejeperro, y Piro. Tagging, follow-up, monitoring, control, hatchery management, are all activities of the project. Contact: Fabián Andrés Sánchez, Tel (506) 838-9171, fasanchez@racsaco.cr.

Sea turtle conservation project carried out in Barra de Pacuare, Limón, Costa Rica, along the 7km of beach between the Pacuare and Parismina Rivers. During the 2005 leatherback nesting season, the work consisted of relocating nests to safer areas, which were monitored by using established protocols up until their hatching. The “Tortuga Feliz” project in Barra de Pacuare is focusing on defining a model of integrated management that permits sustainable development of the area within the context of sea turtle protection and the principle of local community well-being. Since 2004, the Tortuga Feliz has contributed to an increase in the number of nesting turtles and hatchlings; more economic income for locals; improved quality of life and a sense of well-being by implementing basic services such as schooling, medical assistance, and high indices of personal satisfaction. Protected species: *Dermochelys coriacea*, *Chelonia mydas*, *Eretmochelys imbricata*. Contacts: paullepoutre@yahoo.com, gabadia@racsaco.cr

Other projects:

Caño Palma, en playa san francisco
Parismina
Pacuare
Estación Las Tortugas
Centro de rescate y Rehabilitación en Limón
Proyecto Tuba Creek
Proyecto in water en Cahuita
Proyecto en Puerto Vargas/Playa negra
Proyecto Gandoca.
Nancite



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

6.2 Relevant Projects and Activities

Project/Activities	General objective	Results obtained	Duration	
			From	Until
Southern Caribbean ST Conservation Program	Improve the Conservation status of ST in harmony with local communities	Project started in Cahuita	1990	2006
Monitoring and Conservation in Tortuguero by the CCC	Sea Turtle Conservation in Tortuguero to help ST fulfill their ecological roles	Increase in green turtle nesting 412% between 1971 and 2004	1955	2005
Follow-up on sea turtle nesting activities in Ostional	Establish nesting trends of Lo, Dc and Cm in Ostional	Close to 300 mass nesting events have been recorded, ranging from 1000 to 400 thousand turtles per kilometer. More than 4 million hatchlings hatch per year (Chaves et al in preparation)	1981	2005
Monitor olive ridley mass nesting activities in Costa Rica, México and India.	Establish Lo nesting trend in Ostional		First report received. Possible over-estimation of the size of the mass nesting phenomena by previous researchers.	2006
Habitat improvement in Ostional	Increase nesting area and provide sea turtles easy access to the beach	4 km of clean beach throughout the entire year. (Chaves et al 2005b)	1987	2005
Hatchling protection in Ostional	Avoid predation and hatchling death in the daylight	Close to 50 thousand hatchlings saved daily. Predation reduced to 10% of the normal percentage (Chaves et al. 2005a)	1987	2005
Control and protection, hatchery management, environmental education and training in Hermosa Beach, Punta Mala, Barú and Matapalo (Central Pacific)	Improve nesting site conditions, decrease egg harvesting by humans and domestic and wild animals, public awareness.	Improved hatchery management, increased hatching success, number of hatchlings released and awareness levels.	1986	2005
Control and protection, hatchery management, environmental education and training in Carate, Piro, Río Oro, Pejeperro, Perla Beaches	Improve nesting site conditions, decrease egg harvesting by humans and domestic and wild animals, public awareness.	Improved hatchery management, increased hatching success, number of hatchlings released and awareness levels.	??	2005
Use of circular hooks in place of "J" type hooks by Costa Rican commercial longline fleets.	Implement the use of circular hooks as substitution for "J" type hooks in Costa Rican commercial fleets.	Project is in initial phase.	June of 2005 to June of 2006.	

7. International Cooperation

The majority of the different projects identified are being carried out utilizing funds offered through international cooperation with entities such as WWF, WCS, foreign Universities, WIDECAS, NFWF, PTES, IFAW, Whitley Fund for Nature, Idea Wild, Frankfurt Zoological Society, Tropica verde, and CI.



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

8. National Directory

Name	Institutional affiliation	Line of work / Specialty	Telephone	Fax	E-mail	Website
Ricardo Rodríguez	Regional Director INCOPESCA	Fisheries Biologist	(506) 6700201	(506) 6700263	ricardogutierrezv@hotmail.com	
Edwin Solano	Chamber of Fishermen, Guanacaste	President of the Chamber of the Northern Pacific Fishermen	6700026	6700026	edwinsolanorivas@yahoo.com	
Frank Joyce	Fish forever project	Biologist, marine conservation	506-645- 5098	506-645- 5545	fjoyce@racsa.co.cr	
Roxana Silman	Caribbean Conservation Corporation	Research and conservation	297 5510	297 6576	rox_silm@hotmail.com	www.cccturtle.org
WIDECAST	National Coordination	ST	(506) 224- 3570	(506) 253- 7524	tortugas@racsa.co.cr	www.widecast.org
MTSG	Member	ST				www.iucn-mtsg.org
James Spotila	Drexel University Leatherback Trust (Playa Grande)	Biologist			spotilajr@drexel.edu	
Frank Paladino	Purdue University, Indiana (Playa Grande)	Biologist			paladino@ipfw.edu	
Richard Reina	Drexel University	Biologist			Richard.Reina@drexel.edu	
Elizabeth Vélez	WCS-Playa Langosta/	Biologist	(506) 237 7409	(506) 225 7516	evbaulas@yahoo.com	
	Leatherback Trust (Playa Langosta)		(506) 283 9725			
Rotney Piedra	MINAE, Project WCS-Playa Langosta Las Baulas nacional Marine Park	Biologist	(506) 653 0470	(506) 653 0470 (506) 686 4969	baulasrp@yahoo.com	
Clara Padilla	W.C.S-Costa Rica Sea Turtle Project		(506) 283 9725	(506) 225 7516	clarits@hotmail.com	
Mario Boza	Director W.C.S- Costa Rica		(506) 283 9725	(506) 225 7516	baulas@sol.racsa.co.cr	
Randall Arauz	PRETOMA (Caletas, San Miguel and Punta Banco)	Biologist	(506) 236 6017	(506) 236 6017	rarauz@racsa.co.cr	www.tortugamarina.org
Isabel Naranjo	PRETOMA (San Miguel y Punta Banco)	Biologist	(506) 2350836	(506)236- 6017	pretoma@racsa.co.cr	



Inter-American Convention for the Protection and Conservation of Sea Turtles Costa Rica 2007 Annual Report

Gerardo Chávez	University of Costa Rica (Ostional)	Biologist	(506) 207 5966 (506) 682 0400		cachi@biologia.ucr.ac.cr	
Carmen Castro	Environmental Department- Coast Guards	Biologist	(506) 286-6880	(506) 286-6880		
Carlos Mario Orrego	Administrator RNVS Ostional	Veterinarian M.Sc. Wildlife Management	(506) 235 0836 (506) 682 0400	(506) 682 0400	Carlos.orrego@sinac.go.cr	
Julian Garcia	Administrator RNVS Camaronal		(506) 659 9505	(506) 659 9089		
Alonso Vindas	Administrator of RNVS Caletas		(506) 659 9505	(506) 659 9089		
Mauricio Méndez	Coordinator Coastal Marine Resources Program, ACT		(506) 659 9311	(506) 659 9369	delphimendez@costarricense.cr	
Gabriel Francia	WWF, coordinator of Leatherback conservation Project in Junquillal	Marine Biologist M.Sc.	(506) 658 8322	(506) 658 8322	larusdos@yahoo.com.ar	
Luis Matarrita	ASVO		(506) 258-4430	(506) 233-4989	lmatarrita@gmail.com / asvo89@racsa.co.cr	
Jack Elmore Ewing	ASANA	Chemical Engineer	(506) 787-0003		jeewing@racsa.co.cr	
Fabián Andrés Sánchez	Friends of the Osa	Ecologist	(506) 838-9171	(506) 244-2061	fasanchez@racsa.co.cr	www.osaeaturtles.org
M.Sc. Juan Bautista Chavarría.	University of Costa Rica (UCR)	Statistician	(506) 207-5692		jchavarr@cariari.ac.cr	
Lic. José A. Palacios.	National University of Heredia (UNA)	Fisheries Biologist	(506) 661-3635		jpalacios@una.ac.cr	
Marvin Mora	INCOPECA	Fisheries	(506) 6610846	(506) 6610748	marinmora@yahoo.es	
Ramón Angulo Roldán	Forensic Science Lab, Judicial Power	Forensic Biologist, hawksbill identification	(506) 277-4042		ramonangulo@racsa.co.cr	
Angel Herrera	Pacific Marine Park Directo	Marine Biologist				
Gerardo Abadía Paul Lepoutre	WWF LTF	Biologist	(506)3785179		gabadia@racsa.co.cr paullepoutre@yahoo.com	



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10. Annexes

Spanish Versions of:

Use Plan for Ostional Wildlife Refuge, VII Annual Follow-up Report
Expansion of the Camatonal Wildlife Refuge (signed, but not published)
Declaration of a new Wildlife Refuge Caletas-Arío (signed, but not published)
SINAC Hatchery Management Protocol
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