

CONVENTION ON INTERNATIONAL TRADE IN ENDANGERED SPECIES  
OF WILD FAUNA AND FLORA



Fourteenth meeting of the Conference of the Parties  
The Hague (Netherlands), 3-15 June 2007

CONSIDERATION OF PROPOSALS FOR AMENDMENT OF APPENDICES I AND II

A. Proposal

Insertion of the species *Panulirus argus* and *P. laevicauda* of the Brazilian lobster population to Appendix II of CITES, in accordance with Article II, paragraph 2. a), of the Convention and with Resolution Conf. 9.24 (Rev. CoP13) Annex 2 a, paragraph B. 2. b).

B. Proponent

Federative Republic of Brazil.

C. Supporting statement

It has been more than 50 years since the *Panulirus argus* and *P. laevicauda* lobsters are caught in Brazil. Nowadays, the management of the exploitation of this resource is advised by the Management Board on Lobster's Usage Sustainability-CGSL, consisting of government and civil society representatives, including fishermen and fishing companies. This Board subsidizes the government on the adoption of several measures like the minimum size definition, establishment of catching prohibition season, establishment of fleet's size and capture tackle. Having in mind that the main market of this product is abroad, CGSL had approved a recommendation to the Brazilian government to ask the CITES Administration Authority, on the submission of the present proposal to CoP14, for it's inclusion in the CITES Attachment II, the lobster's *Panulirus argus* and *P. laevicauda* Brazilian populations, in order to warrant a harm free exploitation.

1. Taxonomy

1.1a Class: Crustacea

1.2a Order: Decapoda

1.3a Family: Palinuridae Latreille, 1803

1.4a Genus, species or subspecies, including author and year: *Panulirus argus* (Latreille, 1804)

1.5a Scientific synonyms: ---

1.6a Common names:

English:	Caribbean spiny lobster
French:	Langouste blanche, Langouste de Cuba
Spanish:	Langosta del Caribe
Dutch:	Caraïbische langoest
German:	Amerikanische Languste
Italian:	Aragosta dei Caraibi
Portuguese:	lagosta vermelha

- 1.7b Code numbers: ---
- 1.1b Class: Crustacea
- 1.2b Order: Decapoda
- 1.3b Family: Palinuridae Latreille, 1803
- 1.4b Genus, species or subspecies, including author and year: *Panulirus laevicauda* (Latreille, 1817)
- 1.5b Scientific synonyms: ---
- 1.6b Common names: English: smoothtail spiny lobster  
French:  
Spanish:  
Portuguese: lagosta verde
- 1.7b Code numbers: ---

## 2. Overview

The Brazilian Government has established measures for the lobster's *Panulirus argus* and *P. laevicauda* exploitation sustainability for more than 40 years. Although there has been much effort, the stocks of these crustaceans reached a over fishing situation, causing a decreasing in productivity of about 64%.

Having in mind that this fishing is aimed towards the foreign market, production community representatives and fishing companies, jointly with government and civil society representatives, evaluated the international cooperation as a must in order to warrant pre established measures for the sustainable usage, especially of those related to the minimum sizes for catching of the two species, according to the previously agreed in the Management Plan for the *Panulirus argus* and *P. laevicauda* Lobster´s Sustainability Usage in Brazil.

## 3. Species characteristics

### 3.1 Distribution

The Spiny Lobsters inhabit tropical waters, subtropical e temperate. The *Panulirus* lobster kind, which belongs to the *Panulirus argus* and *Panulirus laevicauda* species, is distributed in areas next to the tropics, thus in warmer waters, in small or reasonable depths, in comparison to the cold waters where the species of the other two kinds are captured.

The spatial distribution of the *P. argus* and *P. laevicauda* occurs along the Eastern Atlantic Coast from Bermudas and the United States of America's West Coast do Rio de Janeiro (Brazil), including the whole Gulf of Mexico Region and the Caribbean Sea. The first one is abundant with a growth tendency in a perpendicular direction to the Coast and reaches its maximum between 41-50 meters in average. While the abundance of the second one, reaches it's maximum between 30-40 meters. (FONTELES-FILHO, 1997).

The whole catching area of the lobster stocks in Brazil is distributed between the States of Amapá and Espírito Santo.



**Figure 1.** Distribution of *Panulirus argus* and *P. laevicauda*. (FAO/FIGIS-2006)

### 3.2 Habitat

The lobster's natural habitat consists of calcareous benthonic seaweed, the red seaweed of the Rhodophyceae family, mainly of the *Lithothamnium* kind. The green seaweed of the Chlorophyceae family, mainly of the *Halimeda*, *Udotea* and *Penicillus* kinds, is also part of the sediment (FONTELES-FILHO, 1997).

The green calcareous seaweed consists of dominant sedimentary surfaces between the States of Pará and Rio de Janeiro, in a unique worldwide range, of about 4.000 km, continuously, between the Pará and Cabo Frio rivers. They occupy a large portion of the platform between a lower limit, which is variable depending on the environmental conditions and the beginning of the continental embankment.

The continental northeastern platform, between the States of Piauí and Pernambuco, is almost completely covered by calcareous seaweed (Rhodophyceae) best known as gravel, abundance that gradually lessens to the North and to the Southeast until it becomes absent.

PAIVA, et al (1996) describes the calcareous seaweed banks as very lengthy and usually presenting interruptions consisted by sandy surface areas. In contrast with these interruptions where the existence of sand prevails and where life develops in low intensity. In the banks where it prevails calcareous seaweed and where rocks can be found, life is very intense with the presence of many organisms (vegetal and animal). Due to the presence of the lobster in these banks of calcareous seaweed, they are defined as lobster's banks themselves.

### 3.3 Biological characteristics

**Life Cycle:** In general, the lobsters life cycle begins when the *filosoma* larva derive to the coastal zone, taken by the streams. Later, occurs the post larva *puerulus*, descending to the benthonic zone, when they reach the juvenile stage in the creation zones and the following spreading to the feeding zones. When they become mature, they migrate to even more remote areas from the coast in order to copulate and spawn, starting then a new cycle with the liberation of eggs to the environment.

During the vital cycle, individuals form big groups that carry out daily and random movements, of short distance, and parking movements, of long distance, searching for more adequate zones for reproduction.

The young lobster's habitat is coastal reefs. Under this condition, the *P. laevicauda* species, have an average total length of 6.0 cm (0.7 years) and the *P. argus* species of 6.5 cm (1.9 years) in a continuous spatial recruitment process, which reaches its higher intensity between the months of April and August, when the young ones spread gradually from the coastal areas in direction to remote areas, deeper and distant from the coast. The adult lobsters find in the calcareous seaweed substrates appropriate places for reproduction and to avoid stress, due to the common environmental variations in the creation zone.

**Reproduction and Fecundity:** The lobsters are oviparous species, with an internal fecundation and external embryo development. In what concerns the *P. argus* and *P. laevicauda* species, the incubation period lasts 4- 6 weeks, when the *filosoma* arises, which is a transparent larva with pelagic habits and positive phototropism, which passes for up to 11 stages during 10 months. A metamorphosis after 12 months happens and the *filosoma* gets transformed in *puerulus*, a post larva already with a definitive shape. In this occasion presents pelagic habits and passes to *post puerulus*, with benthonic habits, after the hardening of the carapace when it is 18 months of age.

Already as juveniles (24-36 months) the lobsters get a typical coloration of the species and define the sexual characteristics. After reaching their sexual maturity, they become adults (36 months) and reproducers (48 months), which in a generation's period are able to close down the building of a cohort cycle.

Lobsters of the gender *Panulirus*, has parceled individual and population spawn. This way it is possible to find reproductive individuals during all months of the year, due to this reproductive characteristic and to the great area of distribution's length. Thus there is a higher intensity reproduction season: January- April and September- October (*P. argus*) and February- May (*P. laevicauda*). According to Soares, Cavalcante (1985); and Soares, the necessary period of time for the whole female cohort spawn, is equivalent to 3.3 months.

The spawn occurs far from the coast, in the 40-50 meters depths, in a process that involves a migration with a highly directional component, 133 m/day speed, in average.

The average female length in its sexual maturity was calculated in 20.1 cm of total length (CT) and 13.0 cm tale (*P. argus*) and 1.70 (CT) and 11.0 cm tale (*P. laevicauda*).

Both the species present an absolute and relative great fecundity, with average values of 294.175 eggs and 630 eggs/g (*P. argus*), and 166.036 and 597 eggs/g (*P. laevicauda*), which confirms the red lobster as the dominant specie. (FONTELES-FILHO, 1997).

**Diet:** As a gregarious animal, the lobsters are found in their natural substrate forming great grouping and carry out random movements or trophic when looking for food and shelter where they are protected of their predators. Having a night time feeding habit, with an essential carnivorous character of active and predatorily opportunistic, the lobsters include sedentary groups or of slow movements, easy to be catch as crustaceans, annelids, echinoderms and mollusks/gastropods fundamentally in their diet.

The most frequent species in the lobster's diet reflect the dominance of these organisms in the natural environment. The *Palinuridae* are dominant organisms in their habitat and an important link of the food chain complex, and occupy an intermediary position in the food sea chain, acting as predators of small organisms and as victims of big animals. As inhabitants of regions that go from small depths to about 2.000 meters, their dominance is more evident in less deep regions, being this fact linked to its relative big size and abundance.

The food diet consists basically, of mollusks, gastropods e crustaceans. But secondarily it ingests echinoderms, seaweeds, cnidarians and briozoarians and sponges occasionally. The presence of the carapaces in the lobsters resulting from de ecdysiast in their stomachic contain, is an indication of a natural feeding process and not of cannibalism as initially it used to be known. The two species and both the sexes present a very similar food regime, varying only in the frequencies of occurrences of some items.

**Growth and Age:** The crustaceans have a covered body of a chitinous exoskeleton, rich in calcium carbonate, rigid and not long, which does not allow a continuous growth of the individual. This way the growth of the lobster, like the whole other crustaceans, occurs periodically, after the individual abandons the exoskeleton chitinous, a phenomena known as change or ecdysiast. During the pre change, individuals find shelter, stop eating, ingest and absorb water, which gets spread for the whole body. The change occurs when the lobster frees itself from the old exoskeleton, forcing an opening in the junction of the cephalothoraxes with the abdomen. After the change the individuals look for protection until the new carapace becomes completely rigid.

The number of ecdysiasts in a yearly period depends on the individual and obviously, on their organic conditions. In general, the young individuals change more frequently than the adult.

**Mortality:** The mortality in a natural population, which is responsible for the reduction in the abundance of the various cohorts, which are consisted by it, initially occurs because of the natural factors. Even in the exploited populations, when the individuals are not yet submitted to the fishing, these mortality factors are the only ones, which the populations are subjected during the egg period until the adult.

Afterwards, when the individuals reach the fishing areas and start to be part of the catching stock, a new factor of mortality of a extrinsic nature is caused by an external reason of mortality, which is the fishing tackle.

Studies about the lobster's mortality in the Brazilian coastline (FONTELES-FILHO, 1997) reveal that the total coefficient of mortality grows faster for the *P. laeviscauda* lobster; which is probably caused by a bigger concentration of fishing efforts in coastal areas, where the density of the *P. laeviscauda* is higher. According to Ivo (1998), the high parameter values of mortality are high, where the fishing is included as mortality factor, with a reduction of the natural mortality values for both lobster species, indicate the existence of over fishing in these populations.

#### 4. Status and trends

##### 4.1 Habitat trends

Although the apparent calcareous seaweed banks stability, the monitoring of these environments had warned about the risk in it's reduction, in function of the environmental alterations caused by the global warming and marshy areas degradation. Furthermore, these habitats are threatened by the direct exploitation and damaged by the different fishing arts, including those used for lobster fishing.

##### 4.2 Population size

The behavior of the lobster production in Brazil considering the historic series from 1965 to 2004, points out towards an accentuate instability in the yearly production (Figure 2). We are able, to realize that there was a growing tendency until 1979, except between 1975/76 – when the production of 11.032t had occurred. Since 1979, there was a situation of high instability and with a lowering tendency until 1986, when the production was of only 4.441t.

In the following years and until 1991, a recovering period was found, with a record production of 11.068t. In the following two years, it had decreased very much, and also recovered back, for two years, when the production was of 10.746t, in 1995. In the following years, a decrease was observed, followed by an apparent stability, but of low productions, varying between 6.000t e 7.000t. The last year of the series shows a good production, when it reached 8.670t.

This unstable behavior can be associated to the accentuated growing and to the continuous fishing efforts, specially in the first three decades of the analyzed series, having a lowering in productivity or CPUE as one of the results. This made the specialists about lobsters, already in the in the beginning of 1970 warn us about the possibility of the resource had entered in a over

fishing regime and to advise strong measures for the fishing regulation laws. (DIAS-NETO; DORNELLES, 1996).

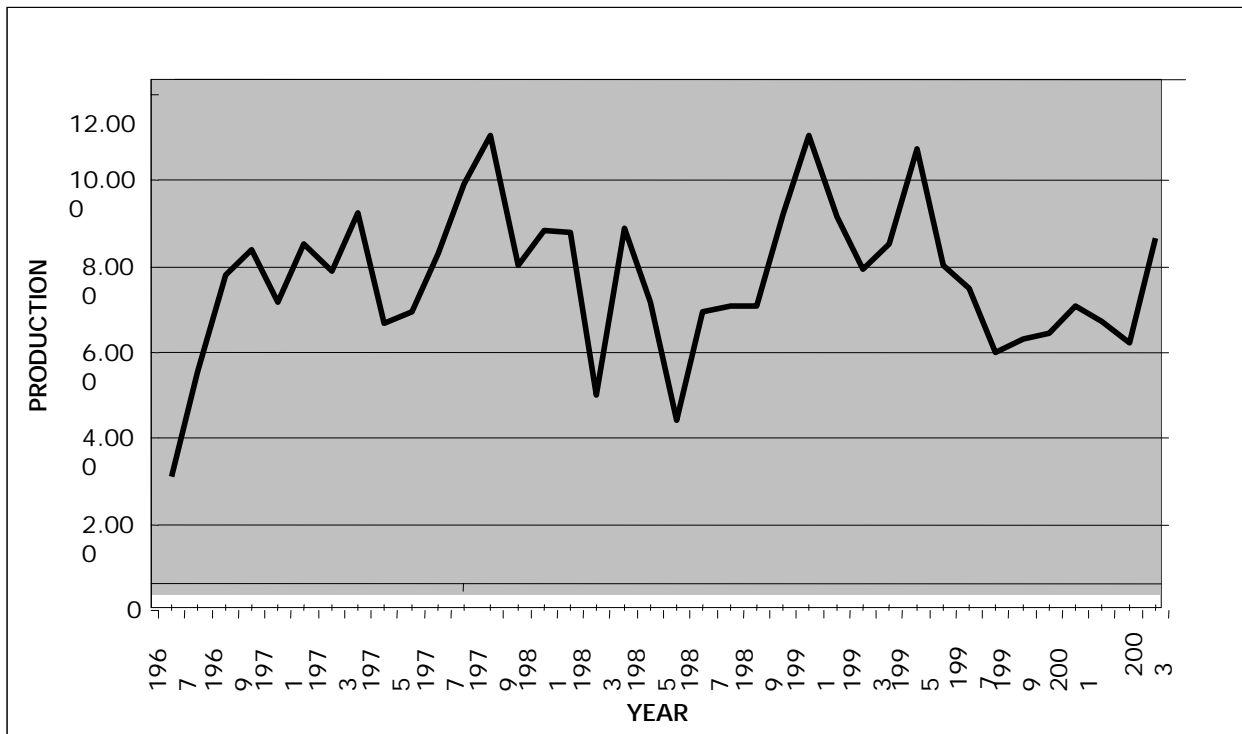


Figure 2. Evolution of the lobster's production in the period from 1965 to 2004

#### 4.3 Population structure

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#### 4.4 Population trends

Observing the landing between 1973 and 1993, we can see a decreasing tendency in the period of 1976 to 1986. In 1978 we observe an unmeaning growth in the production, which in a short time went back to the decreasing tendency. **It was observed a reduction in production of around 64,0%, between 1979 (year of bigger production) and the year of 1993.** Nowadays stands out the average values of the present production, 7.000 tons. It represents a falling of approximately **30% of the average values of production.**

When considering specifically, the index of abundance or productivity, measured by the yearly catching average by effort unity-CPUE for the two species, we observe an even more accentuate and worrisome decreasing, even though in the beginning of the fishing this index used to be equivalent to about 1.000 kg/lair-day, in the last years it has been around 0.100 kg/lair-day, what shows a decrease in about 90%.

Amongst other aspects, the biomass reductions and catching are consequences of the excesses of effort in fishing and of the disrespect to the minimum sizes for catching.

#### 4.5 Geographic trends

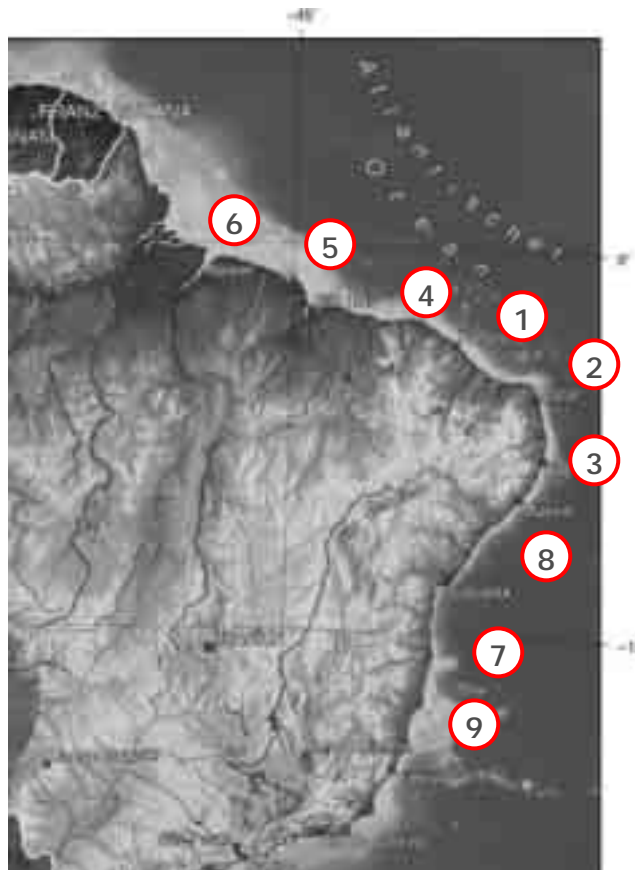
The continental platform in the lobsters fishing area in Brazil, varies between approximately 120 nautical miles in the coast of the States of Maranhão and Pará, and 20 nautical miles, in front of the State of Pernambuco, and right after that, experiments a new expansion until it reaches values superior to 120 nautical miles in the State of Bahia. In the State of Ceará, where the lobster catching used to be higher historically, the continental platform reaches values next to 45 miles.

The lobster fishing had remained restricted to the coast of the State of Ceará, since its beginning, in 1955, until 1960 and from the beginning of 1961 it has expanded to Rio Grande do Norte, Pernambuco and Paraíba (Figure 3 – de 1 a 3).

Only in 1975, new fishing areas were added to the preexisting ones, so the lobster fishing also started to be developed in the costs of the States of Piauí and Maranhão and in regions more to the north (Figure 3 – 4 a 6).

In the end of the 70's, when the lobster fishing reached it's maximum level of production, the fleet based in the States of Ceará, Rio Grande do Norte and Pernambuco expanded their acting areas in order to reach the south coast of Bahia's State and in the coast of Alagoas State and Espírito Santo's. (Figure 3 – de 7 a 9).

The official registers about the lobster fleets dislocation, as the board maps point out, show that there aren't new fishing areas to be explored and point to a distribution that goes from the longitude de 48° 00' W in the coast Pará State to the latitude of 20° 00' S, in the State of Espírito Santo, usually, between the depths of 5 to 60 meters, and are able to reach depths of up to 100 meters in some cases. (Figure 3).



**Figure 3.** Evolution of the lobsters *Panulirus argus* and *P. laevicaud* fishing areas: 1) 1955 – Ceará; 2) 1961 - Rio Grande do Norte; 3) 1961 and 1962 – Pernambuco and Paraíba; 4) 1975 – Piauí; 5) 1975 – Maranhão; 6) 1975 – Pará and Amapá; 7) 1978 – Bahia; 8) 1978 – Alagoas; and 9) 1979 – Espírito Santo.

## 5. Threats

According to what was described previously, these species are fishing targets destined to supply the foreign market, which is the responsible for the over fishing, the excess of fishing efforts and the disrespect to the minimum catching sizes.

## 6. Utilization and trade

### 6.1 National utilization

The resulting production of the lobster fishing in the last decades had the foreign market as destination, and it has been found that part of the lobsters with a size inferior to the ones allowed, have been exported in disrespect to the effective regulation. Only a small parcel (about 5%) have remained in the national market.

### 6.2 Legal trade

The total amount of lobster's exportation, in the period of 1990 to 1994, generated a revenue that varied between the USD 50 million and the USD 70 million (IBAMA, 1996).

The lobsters used to represent, until recently, the main item in the guidelines of fishing products exportations of Brazil. In the last years, the lobsters exportations were surpassed by the total of exchange value resulting from the foreign shrimp commerce produced in the country, considering it the product of the fishing extraction and the extractive fishing product and of carciniculture.

The average yearly exportation prices, in the period of 1991 to 2000, varied between the USD 13,26/kg (obtained by Pernambuco, in 1991) and the USD 25,65/kg (reached by the exportations in Ceará, in 2000). In the last years the average prices were better than the ones reached in 2.000.

The main exportation market for the lobsters in Brazil, are: United States of America, Japan and France.

The United States of America however, are the most important market, remaining historically distant from the others, in total volume of exchange value generated.

### 6.3 Parts and derivatives in trade

The frozen lobster tails were exported until the 90's. From that time on, the whole frozen cooked lobsters, live lobsters and lobster meat begun being exported, in lesser quantity though but that fact has made possible a bigger use of the catching.

### 6.4 Illegal trade

The necessity to reinforce the internal managing measures using the international cooperation is aimed to avoid the clandestine exemplars exit, is lower than the minimum of the allowed catch.

### 6.5 Actual or potential trade impacts

The inclusion of the appendix II of CITES of Brazilian *Panulirus argus* and *P. laevicauda* was a demand by the Management Board of Sustainable Lobsters Usage, with the purpose of prohibit the illegal exportations of the lower than the minimum size lobster and to warrant the Brazilian product quality.

Since the present proposal is restricted to the Brazilian populations, there will not be an impact over the international commerce, but it will just warrant that the Brazilian product exploration, follows the sustainability rules which are defined by the Convention.

## 7. Legal instruments

### 7.1 National

Having in mind the lobster's management in Brazil, the first measures revealed exclusive concerns of biologic order and were related to fishing seasons and minimum catching sizes.

The measure forbids the fishing of *Panulirus* spp lobsters in the States of Ceará, Rio Grande do Norte, Paraíba, Pernambuco and Alagoas, in the period from February 15 to may 15 of 1962 and in the following years and carefully considered about the total minimum length for catching to be 19 cm and lobster's commerce.

Although unconcerned about the fishing efforts limitations, still in 1961 an ordinance was published with the first restrictions to the fleet, even though it was giving a few indications about the subject.

The main lobster fishing regulatory effective measures in 1967, were related to the following subjects:

Mesh of lair's size, young and pregnant females, catching prohibition, permanent interdiction of defined fishing areas such as natural vivarium and the prohibition of the launching of lobsters head and lairs in the fishing places.

In December of 1971 an ordinance was published in order to forbid the lobster fishing with a waiting net, *caçoeira* [a very narrow mesh trawl, that ends up dragging the mature lobsters as much as the tiny species and the substrate that warrants their reproduction], kind or any other kind of set net.

In 1978, a new legal instrument was published which reunited the management measures imposed to the lobster's fishing introducing small modifications in order to attend the suggestions presented in technical reports and scientific works. Being defined:

- a) the minimum catching size depending on the specie,
- b) fishing interdiction,
- c) fishing prohibition in natural vivarium areas,
- d) prohibition of the fishing using trawl, beach seine, set net and prohibition of the use of diving helper devices and the mesh lair's net size limitation, and
- e) special permission for lobster's fishing operation boats.

The following lobster fishing main regulation measures are presently being practiced in Brazil:

- 1) Catching prohibition of the red lobster with 13,0 cm of tale's length (7,5 cm of cephalothoraxes length and of the green lobster with 11,0 cm of tale's length (6,5 cm of cephalothoraxes length). Nonetheless, it allows a tolerance of 2,0% of lobster, in relationship to the total weight, of individuals having an inferior minimum size to the ones allowed, since the minor difference doesn't surpass the 2,0 mm. This measure is meant to protect the juvenile stock.
- 2) Forbids the lobster fishing in the following natural vivarium areas, up to 3 miles distant from the coast:
  - a) between 07° 33' 30'' S and 07° 50' 00'' S;
  - b) between 39° 07' 00'' W and 38° 48' 99'' W and c) between 05° 05' 00'' S and 05° 07' 00'' S and, 36° 12' 00'' W and 36° 20' 00'' W.
- 3) Allows the lobster catching only with the usage of the lair kind traps or *manzuás* and *cangalha*, with 5,0 mm meshes between us, or waiting nets, of multifilament nylon, of the *caçoeira* kind, with 140 mm meshes between us opposite of stretched meshes ( the *caçoeira* is forbidden in the fishing in Amapá, Pará and Maranhão coastlines). This measure is also aimed towards the juvenile stock protection
- 4) Limits the lobster fleet to vessels whose permission request or registration had been effective by august 8 of 2000 (combining the ordinances MMA nº 155, of 2001, and nº 117, of 2000).

This measure is aimed towards the lessening of fishing efforts applied to the lobster's catching.

- 5) Fishing stoppage (forbidden), yearly, in the period of January 01 to April 30 in Brazilian waters jurisdiction. This measure seeks to protect the major intensity reproduction of the specie's period
- 6) Forbids de decharacterization of the lobster tale. The tale's decharacterization prevents the identification and the measuring of individuals and thus compromises the minimum size norm. This measure is aimed avoid cheating in matters concerning the juvenile stock protection measures.
- 7) Forbids the lobster catch by ways of diving of every nature. Forbids also the vessels that operate in the species fishing, to carry any kind of comprised air device and devices adapted to the lobster catching by diving.

## 7.2 International

There are not any legal international tools that regulate these lobster exploitation and that are valid in Brazil.

## 8. Species management

### 8.1 Management measures

The Brazilian Government elaborated and the Management Board on Lobsters approved the *Panulirus argus* and *P. laevicauda* Management Usage Sustainability Plan, which has the general the following general aims:

- a) To promote the recovering and maintenance of the sustainable lobsters usage of in Brazil, considering the bioecologic, social and economic sides in a view of short, middle and long view terms.
- b) To assure the power and responsibility sharing between State and the users (fishermen, ship owners and manufacturers) and to warrant the existence of communication spaces, where the State and users of the resources are able to deal their goals and projects in a democratic and participative way, having the whole concept of sustainability as a founder vector of a new order in the management of the lobster resource usage.

And as specific goals:

**Biological Fishing:** Surpass the lobster fishing instability situation and warrant the resource's biological sustainable exploitation which relative points of reference should be in accordance to the maximum catching permitted or to the production sizes, minimum catching sizes, methods and gear permitted, forbidden periods, exclusion areas, etc.

**Ecological:** Assure the maintenance of healthy conditions to the ecosystem where the lobsters are located, as a permanent goal, being fundamental a discussion and definition of permanent fishing permanent responsible practices conduct. Monitor and maintain the balance of the young lobster individuals natural vivarium areas and mitigate anthropic actions which cause an impact in lobsters.

**Social:** Assure maximum levels of employment and income, warranting the possibility of fishing recovery and the sustainability of the resource's usage, as to contribute with education, health and housing, and this way improving the fishing communities life's quality.

**Economics:** Seek maximum economic fishing rentability; without however, compromise the recourse's recovering and the sustainability's maintenance in the long run.

**Environmental Education Goals:** Gather the community in the sharing management process, mediate the possible conflicts between the users segment and assure their participation in the definition process and implementation of the resource's usage management measures.

**Legal Goals:** Establish a legal structure that warrants the implementation of the lobster's sustainable usage sharing management plan and this way assuring the co-management process.

## 8.2 Population monitoring

The Management Board on Lobsters Usage Sustainability is assisted by a sub-scientific board consisting of the best renowned national researchers who belong to governmental institutions and to universities which are part of a lobster's research network.

Furthermore, the landing and production are collected regularly by board observers, board maps, port landing collectors and in the fishing companies.

This data is compiled and analyzed by the sub-scientific board which evaluates the tendencies and propose to the managing board the measures to be taken in order to regulate the exploration.

The plan demands a long run research program which should be elaborated during the first year of its implementation and involve all the institutions and the scientific communities representatives, who work with the lobster resource and its fishing.

The main program's goal is the generation of scientific knowledge in order to subsidize the sharing management process and sustainable of the Brazilian coastal lobster, having in mind the optimization of the bioecological, social and economic sides of these resources usage.

In order to make sure this goal is reached, it's necessary to obtain information in every related area and considering all species distribution, having in mind the permission of:

- Availability of population parameters and of species life cycles
- Evaluate the present level of the species exploitation
- Determine the sustainable level of bio-ecological, social and economic exploitation
- Define and accompany the environmental quality of the areas where the lobsters are located
- Correlation the spatial and seasonal distribution as well as variations in abundance with environmental conditions;
- Determine adequate exploitation standard;
- Develop forecasting catch methodologies;
- Evaluate social and economic sides of fishing
- Follow the market parameters.

## 8.3 Control measures

### 8.3.1 International

Brazil asks the lobster's importing countries of Brazil to cooperate in the regulation control administration by not allowing their citizens to buy Brazilian lobster smaller than the minimum catching allowed sizes, in the way it was already described previously and according to the established principles and exigencies by CITES.

### 8.3.2 Domestic

Every established measures for the lobster's exploration are made by taking scientific information basis into account and are in accord between government and society in order to get by a sharing managing process, the transparency and necessary understanding of its full execution.

## 8.4 Captive breeding

There is no artificial reproduction or assisted-helped programs being implemented.

## 8.5 Habitat conservation

According to what was established by the Management Plan for the *Panulirus argus* and *P. laeviscauda* Lobster's Sustainability Usage, the Sub-Scientific Board are to propose fishing free-exclusion areas.

## 8.6 Safeguards

It does not apply.

## 9. Information on similar species

Although the Management Plan focus is the management of *Panulirus argus* and *P. laeviscauda* species, it will promote actions that will influence in a positive way other species of crustaceans and other species of the fauna which accompanies originated from this fishing.

## 10. Consultations

Considering that this proposal is restricted to the lobsters *Panulirus argus* and *P. laeviscauda* of the Brazilian populations; that intends the adoption of more restrictive measures; and that not imply in consequence for the other countries of the specie's occurrence; no other countries or international institutions were consulted.

We point out that this proposition came from a higher entity, capable to debate about species, which include researchers, public managers and users such as fishermen and fish companies.

## 11. Additional remarks

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## 12. References

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