Responses to Notification to the Parties No. 2020/015

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Australian response to Notification 2020/015 – Information on National Management Measures for Seahorses (*Hippocampus* spp.) and their Implementation and Enforcement

a) *Inform the Secretariat of any national management measures that regulate or restrict international trade in seahorses; and how they are implementing and enforcing such measures for seahorses.*

b) *Share copies of their non-detriment findings with the Secretariat for posting on the CITES website to assist other CITES Parties.*

Australia has 18 (CITES-II listed*) species of *Hippocampus*:
**using CITES standard nomenclature*

***Hippocampus abdominalis**:*

H. angustus

H. bargibanti

H. breviceps

H. colemani

H. dahli

H. denise

H. histrix

H. jugumus

H. kelloggi

H. kuda

H. minotaur

H. paradoxus

H. planifrons

H. spinosissimus

H. subelongatus

H. whitei

H. zebra

Five of these species are approved for export from Australia: *Hippocampus abdominalis, H. angustus, H. breviceps, H. kuda, H. whitei*.

Exports are predominantly for commercial purposes (T) and exported live (with fewer exports of derivatives, bodies). Additionally exports have included for research (S) and education (E) purposes. Specimens are generally recorded as being sourced from wild harvest (W) and captive bred (C).

a) National management measures regulating international trade in seahorses and implementation

Australia has a 'federal' system of government, where powers are divided between the Commonwealth federal government, six state governments and two territory governments. Marine waters and their resources are managed under these various jurisdictions. Australian commercial fishery operations are regulated by, and usually also managed by, a government fishery department that oversees harvest in that jurisdiction (i.e., in either Commonwealth, state or territory waters).

In Australia, all species in the Family Syngnathidae (seahorses, seadragons and pipefish) are listed under Australia's national environment legislation – the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) as Marine Species. It is an offence to kill, injure, take, trade, keep or move a member of a listed Marine Species if it is in or on a Commonwealth area. This limits any take for export of these specimens to areas managed by state and territory jurisdictions.

CITES is also given effect in Australia through this national environment law (the EPBC Act). Part 13A of the EPBC Act provides for: the regulation of imports and exports of CITES-listed specimens through permits; the enforcement functions of CITES; and for assessment of the ecological sustainability of trade in regulated species.

In accordance with Resolution 16.7 (Rev CoP17), export permits for specimens of species included in Appendices I and II may be granted only when a Scientific Authority of the State of export has advised that such export will not be detrimental to the survival of the species (following a 'non-detriment finding' determination). A non-detriment finding is therefore required prior to all exports of CITES-listed specimens, regardless of the purpose of trade.

The EPBC Act sets out the sustainability considerations for approval for export. Having this requirement embedded in national legislation provides for consistent regulation of export trade, embeds the qualities of the non-detriment findings in the legislative process, and sets out clear expectations for exporters. The CITES Scientific Authority of Australia can therefore make non-detriment findings based on the legislative process. The EPBC Act also provides for exemptions and special provisions in accordance with Article VII.

The specific requirements for export under the EPBC Act differ depending on the purpose of export being for commercial or non-commercial purposes as defined in the legislation, which in part takes account of relative risk posed by these activities. Exports proposed for these purposes must demonstrate the export meets the requirements defined by the relevant regulation relative to each defined purpose.

Non-commercial purposes include research, education, exhibition, conservation breeding, personal items and travelling exhibitions.

Commercial export permits can only be granted for specimens that are derived from a program that has received approval from the Scientific Authority for export for the species. The assessment process for the program's approval incorporates the sustainability assessment that forms the basis of a non-detriment finding.

Animal programs for CITES-listed species defined under the legislation:

- captive breeding (exports with source code C or F)
- Wildlife Trade Operations and wildlife trade management plans (exports with source code W or R).

Non-commercial exports

Where trade is for primarily non-commercial purposes, such as live animals for display in a zoo or aquarium, or as scientific research specimens, an assessment including for sustainability, is undertaken for each proposed export. This has a consistent procedure which includes consideration of the national conservation status of the specimen (as defined under the EPBC Act), the source of

the specimen (including non-wild or wild and source location, lawful acquisition), and the number of specimens proposed to be exported and justification. If the specimen is from a threatened species listed under the EPBC Act, further consideration is given to the proposed export relative to the species' conservation advice and/or recovery plan.

In fourteen years (since listing in 2004 to 2018) Australia exported 1545 specimens of *Hippocampus* spp. (of *H.abdominalis, H. angustus, H. barbouri, H. breviceps, H. subelongatus, H. kuda, H. whitei*) under purpose codes S, Z and E. Of these, 223 were wild caught.

Commercial exports

All specimens of CITES-listed species exported from Australia for commercial purposes must be sourced from a program that has been approved under national environmental legislation (the EPBC Act) by the federal Minister for the Environment (or his/her delegate). The legislation sets out the requirements for the various programs. For *Hippocampus* spp., program types are captive breeding programs and Wildlife Trade Operations.

In approving an operation, the Minister (or their delegate) must be satisfied that the operation will not be detrimental to the survival or conservation status of a taxon to which the operation relates; and that the operation will not be likely to threaten any relevant ecosystem, habitat, or biodiversity. This assessment establishes the conditions under which a positive non-detriment finding may be made for the species over a set time. If, during the assessment, the proposed take is not considered to be ecologically sustainable, the program will not be approved. The proponent may reapply for a new assessment with a revised proposed take, should this be appropriate.

Once a program is approved, the operator may then apply for export permits for their specimens within the boundaries defined by the approved program.

There are three programs operating in Australia that are currently approved for export of seahorses. These include programs sourcing seahorses as wild, as well as captive breeding programs. Because of the scale of operation, some non-detriment assessments cannot be published in full due to commercial-in-confidence considerations.

Regulation for captive breeding programs (source codes F, C)

Four species of *Hippocampus* have been approved for export from captive breeding programs:

H. abdominalis
H. barbouri
H. kuda
H. whitei

Approval as a captive breeding program allows the program operator to apply for permits to export captive-bred specimens of species approved under the program. To be approved for export as a captive breeding program, the program must have first demonstrated that it meets the specific requirements as set out in the legislation for this program. This includes that:

- each animal is bred in captivity
    - for animals that reproduce sexually, the parents must transfer gametes by mating in a controlled environment.
- breeding records are available for the all species listed for export
- the breeding stock from which the animal is bred:
    - is legally obtained
    - is established in a way that is not detrimental to the survival of the species in the wild (this includes being within the limits of a quota from a wild-caught program – see below)
    - is maintained without the introduction of specimens (including eggs or gametes) from the wild, other than to ensure ongoing genetic viability or to dispose of animals that have been confiscated, seized, rescued or removed from the wild for public health or safety; and

    - has produced offspring of at least the second generation or is managed in a way that has been demonstrated to be capable of reliably producing second-generation offspring in a controlled environment.
- the controlled environment (in which reproduction occurs) is defined as an environment that:
    - is managed to produce animals of a particular species; and
    - has boundaries that are designed to prevent animals, eggs or gametes of the species from entering or leaving; and
    - provides for artificial life support that may include, for example, artificial housing, temperature control, waste removal, health care, protection from predators and artificially supplied food.

Export of specimens from approved captive breeding programs are not generally limited by an export quota. This is because the approval assessment process incorporates a sustainability assessment on the source stock (see below Regulation of Wild Source). Breeding to subsequent generations has no direct effect on wild populations.

Regulation for wild source (source code W or R) – approved Wildlife Trade Operations

Approved Wildlife Trade Operations are operations taking specimens generally from the wild and approved for the purpose of export trade. The specimens may include CITES and/or non-CITES listed Australian native species. Approval as a Wildlife Trade Operation allows the operator to apply for permits to export wild-caught specimens of species approved under the operation. Wildlife Trade Operations export under source code W (and in some cases R). Wildlife Trade Operations may also provide for a limited take of specimens from the wild in order to build brood-stock for captive breeding purposes, where an operator may apply in future as an approved captive breeding program (under code C – see above).

To be approved as a Wildlife Trade Operation for export of *Hippocampus* spp., the operation must be a small-scale operation and must have demonstrated that it meets the requirements as set out in the legislation. This includes that the operation:

- is consistent with the objects of Part 13A of the EPBC Act;
- will not be detrimental to:
    - the survival of a taxon to which the operation relates; or
    - the conservation status of a taxon to which the operation relates; and
- will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity.

In deciding whether to approve the operation as an approved Wildlife Trade Operation, the federal Minister for the Environment (or their delegate) must take account of the precautionary principle, and have regard to:

- the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity, including the sustainability of the target and non-target species); and
- the effectiveness of the management arrangements for the operation (including monitoring procedures) i.e.:
    - whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the jurisdiction concerned
    - whether the legislation applies throughout the jurisdiction concerned
    - whether, in the opinion of the Minister, the legislation is effective.

Conditions may be added to an approval of the Wildlife Trade Operation, which require it to undertake additional obligations. These may include annual reporting to the regulator on components of its operation, such as total harvest, location of harvest, quantities of specimens sold or held as stock.

Once approved, operators may apply to the CITES Management Authority for CITES-permits which are checked within the limits of the approved program (including for quantities, operating period).

As Australia has a 'federal' system of government, where powers are divided between the Commonwealth federal government, six state governments and two territory governments, Australian

commercial fishery operations are often managed by a government fishery department that oversees the harvest in that jurisdiction (i.e., in either Commonwealth, state or territory waters). In these cases the relevant jurisdiction fishery department applies for approval of the fishery's Wildlife Trade Operation, and once approved, manages the Wildlife Trade Operation. The jurisdiction also manages (via licences) the individual fishery operators harvest from the approved fishery Wildlife Trade Operation.

All Australian commercial fishery operators must have valid licences covering their fishing activity and issued by the fishery department in that jurisdiction (Commonwealth, state or territory). Operators may operate across multiple jurisdictions, or in a jurisdiction outside of where their business is based, so long as they hold the relevant licence(s).

If an operator does not conduct fishing activity in accordance with their licence, or without a licence, this would be considered a matter of non-compliance and referred for investigation to the relevant jurisdiction managing the approved Wildlife Trade Operation.

In some instances, there are very few operators within some fisheries. The relevant jurisdiction is required to maintain the information on harvest and limits by these operators as commercial-in-confidence. While the Australian CITES Scientific Authority has access to reporting on harvest in these cases, we are not able to provide this information without permission from the relevant jurisdiction and operators to do so.

Management of the fishery by the relevant jurisdiction includes:

- ensuring that harvest is limited to levels stipulated for that taxon within the approved Wildlife Trade Operation, and that operators harvesting in the fishery operate within the constraints of their licences.
- Operators must report quantities of take through an acquittal process to the jurisdiction, which then
- reports harvest levels and compliance to the Australian CITES Scientific Authority.

In instances of small-scale operations, individual fishery operations have been assessed as, and manage their own, approved Wildlife Trade Operation (i.e. they are not managed by a government department). Information on fishery Wildlife Trade Operations can be found at http://www.environment.gov.au/marine/fisheries.

In all instances, seahorses exported from Australia must:

- have been harvested from an approved Wildlife Trade Operation approved for that taxon, within the scope and conditions / management regime approved for that Wildlife Trade Operation
- have been harvested by an operator licenced to harvest within the fishery from which the seahorses were sourced
- have a CITES export permit. When the operator applies to the CITES Management Authority for an export permit, they must first demonstrate that they held the relevant fishery licence at the time the specimens were sourced.

There are currently two fisheries approved as Wildlife Trade Operations for the take and export of *Hippocampus* spp.

b) Share copies of their non-detriment findings with the Secretariat for posting on the CITES website to assist other CITES Parties

Five species of *Hippocampus* are currently approved for export from two Wildlife Trade Operations – where specimens are wild-caught (W) for commercial purposes (T). These species are not considered to be threatened domestically.

Distribution and habitat information is available within the links below:

Hippocampus abdominalis

https://biodiversity.org.au/afd/taxa/Hippocampus_abdominalis

https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:180e82e4-7039-43ef-b227-1e0f3b386362

Hippocampus angustus

https://biodiversity.org.au/afd/taxa/Hippocampus_angustus;Hippocampus

https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:2162a641-880c-49e1-a51c-47ddaf34a456

Hippocampus breviceps

https://biodiversity.org.au/afd/taxa/Hippocampus_breviceps;Hippocampus

https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:d3881c8e-0671-4f22-aebd-8758df915b12

Hippocampus subelongatus (Endemic to Western Australia)

https://biodiversity.org.au/afd/taxa/Hippocampus_subelongatus

https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:32772a41-cc35-455f-9588-af883fc379ca

Hippocampus tuberculatus (= H. breviceps according to Lourie et al., 2016)

https://biodiversity.org.au/afd/taxa/Hippocampus_tuberculatus

https://bie.ala.org.au/species/urn:lsid:biodiversity.org.au:afd.taxon:a028012b-0ac0-49bc-9e34-e01f07a0ff2c#overview

Lourie, S.A., Pollom, R.A. & Foster, S.J. 2016. A global revision of the Seahorses *Hippocampus* Rafinesque 1810 (Actinopterygii: Syngnathiformes): Taxonomy and biogeography with recommendations for further research. Zootaxa 4146(1): 1–66 [18]

The two approved Wildlife Trade Operations for the wild take and export of species of *Hippocampus* are PQ Aquatics and the Western Australian Marine Aquarium Fish Managed Fishery. As described in the response to the first part of this notification (part a), the sustainability assessment and non-detriment findings for commercial export are embedded in the legislative process for approval of programs such as a Wildlife Trade Operation. Information for Non-Detriment Findings are often, therefore, provided and assessed within formats that meet additional requirements, and rarely exist within a single document for that covers the complete range of the species for Australia.

PQ Aquatics

Hippocampus beviceps and *H. abdominus* are taken in very low numbers (<10 annually) in waters in the state of Victoria. Adults are taken as brood stock and progeny is exported for aquaria. Information about this approved Wildlife Trade Operation is available at:
http://www.environment.gov.au/marine/fisheries/vic/pqaquatics

Hippocampus angustus and *H. subelongatus and H. tuberculatus* are taken for export in the Western Australian Marine Aquarium Fish Managed Fishery.

Assessment for Non-Detriment Finding - Western Australian Marine Aquarium Fish Managed Fishery

The Western Australian Marine Aquarium Fish Managed Fishery has been an approved Wildlife Trade Operation since 2005 and has been reassessed every three years since that time. Information for the non-detriment finding for this operation is found within a number of documents used for the assessment of the program, including a risk assessment for the fishery, and a harvest strategy. Information about the fishery and its assessment can be found at: https://www.environment.gov.au/marine/fisheries/wa/marine-aquarium. An overview of information in relation to the non-detriment finding is provided as follows:

This fishery harvests a variety of marine species that inhabit intertidal and nearshore waters of Western Australia from the South Australian border to the Northern Territory border (total gazetted area of 20 781 km^2). While the fishery area covers all Western Australian waters, only 12 fishing licences are currently provided. Seahorses may only be collected in the fishery within 3 nautical miles from the coast.

The fishery is managed by the Western Australian State Government. Fishers are required to report all retained species catches, effort, ETP species interactions and fishing locations in statutory daily logbooks. No other fisheries exploit these species and there is no documented recreational fishery.

The Western Australian Government provides reports to the Australian Government on annual species-specific harvest against the prescribed limits. The Australian Government reviews these reports annually and assesses the overall effectiveness of the fishery's management arrangements every three years, when renewing the wildlife trade operation and non-detriment finding for the fishery.

Seahorse take in the Western Australian Marine Aquarium Fish Managed Fishery

The fishery is approved to harvest and export a number of species of seahorses including

- *Hippocampus angustus*
- *H. subelongatus*
- *H. tuberculatus* (= a junior synonym of *H. breviceps* according to *Lourie et al., 2016*)

as well as other native species not CITES- listed (e.g. *Phyllopteryx taeniolatus, Stigmatopora argus,Trachyrhamphus bicoarctatus*).

In 2011 the Western Australian Government introduced a more rigorous assessment of the fishery, including fishery independent estimates of abundance and sustainable harvest levels resulting in the development of a harvest strategy, revised precautionary harvest levels, and in 2014 a preliminary risk assessment that identified species for more detailed assessment. This included *Hippocampus angustus*, *H. subelongatus*, and *H. tuberculatus*.

The risk assessment includes consideration of consequence of fishing activities and likelihood-of-occurrence analysis. The ecological risk assessment for the fishery helps to determine if a take of a species can be sustainable, and if so, the sustainable level of take. The risk assessment is available at: https://www.environment.gov.au/system/files/consultations/d9d9a6e3-5a4f-45b2-990b-558e22616146/files/appendix-6-risk-assessment.pdf.

The risk assessment considers the species' range, habitat, reproduction, and harvest constraints i.e. number of licence holders, access points of licence holders within the fishery, method of catch and catch history. Maps showing take relative to location are included in the document.

Take of seahorses in this fishery is managed under an Individual Transferable Quota (ITQ) system. Seahorse species are primarily collected by hand while wading or diving on SCUBA or hookah. Fish are generally caught using hand-held nets. Licences are limited to twelve operators. Animals are caught to order.

These factors - industry constraints (limited access points, limited number of licences) distribution and low catch level suggest negligible risk to all three species of *Hippocampus*.

The fishery's harvest strategy provides guidance for decision-makers to ensure consistency with the principles of ecologically sustainable development and makes explicit reference levels and harvest

control rules for the fishery to follow for a period of time. The harvest strategy for this fishery is available at: https://www.environment.gov.au/system/files/consultations/d9d9a6e3-5a4f-45b2-990b-558e22616146/files/appendix-5-harvest-strategy.pdf. Appendix 4 of the harvest strategy provides threshold levels for seahorses. From 2018 the harvest annual threshold was 2000 individuals for all seahorses, including a limit of 328 individuals of *H. angustus*.

The Australian Government has considered the information provided about the fishery by the Western Australian Government, and its proposed levels of take of *Hippocampus* spp., and has approved the fishery as an approved Wildlife Trade Operation. In making this approval, the Australian Government has thereby provided a positive non-detriment finding for *Hippocampus angustus, H. subelongatus, H. tuberculatus (= H. breviceps* in Western Australian waters) from this fishery with the following catch level limits between July 2019 to October 2022:

a total quota of 2,000 individual sygnathiformes, including the three species of *Hippocampus*. *Hippocampus angustus, H. subelongatus, H. tuberculatus.*

ព្រះរាជាណាចក្រកម្ពុជា
Kingdom of Cambodia
ជាតិ សាសនា ព្រះមហាក្សត្រ
Nation Religion King

ក្រសួងកសិកម្ម រុក្ខាប្រមាញ់ និងនេសាទ
Ministry of Agriculture, Forestry and Fisheries
សមត្ថកិច្ចគ្រប់គ្រងសាយតេសកម្ពុជា
CITES Management Authority of Cambodia

No: 030/20 CMAC

Phnom Penh, 14 April 2020

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Subject: National management measures for seahorses (Hippocampus spp.) and their implementation and enforcement

Dear Sir,

Reference is made to notification number 2020/015 dated 28 February 2020 concerning request for information on national management measures for seahorses (Hippocampus spp.) and their implementation and enforcement. The CITES Management Authority of the kingdom of Cambodia would like to inform you the national management measures for seahorse (Hippocampus spp.) and their implementation and enforcement as follows:

1. National management

Seahorse (*Hippocampus spp.*) is classified as Endangered Fisheries Resource by the Sub-Decree No. 128 dated 12 August 2009. The Ministry of Agriculture, Forestry and Fisheries enacted a Proclamation 571 MAFF dated 06 September 2010 to protect these endangered species. Based on this Proclamation, catching, selling, buying, transporting, collecting, processing and stocking of this species from natural water shall be prohibited, but for scientific research purposes shall be permitted by the Director General of the Fisheries Administration. In case of accidentally catching these species, fishermen must release them urgently back into natural water range without any conditions and shall not make harm or kill them and report to fishery competence or follow instruction of fishery officials. In case of finding dead animals or carcasses, fishermen shall immediately inform or provide dead animals or carcasses to fishery officials. Person, who is found causing harm to endangered fishery resources, shall be penalized under the Article 98 of the Law on Fisheries.

2. Implementation and enforcement

So far, the Fisheries Administration, in collaboration with relevant partners including Fauna and Flora International and Marine Conservation Cambodia, has been working along the coastline to identify the seahorse species, seahorse habitats and distribution, seahorse landing site and by-catch fishing

gear. To reduce seahorse by-catch and illegal trade, the actions have been taken including organization of public awareness raising, introduction of new fishing techniques to reduce seahorse by-catch and protection of their habitats.

Please accept, the assurances of our highest consideration.

Yours Sincerely

Prof. NAO THUOK, PhD
Secretary of State
Chairman CITES Management Authority of Cambodia
Ministry of Agriculture, Forestry and Fisheries

CC:
- Cabinet of the Minister
- Fisheries Administration
- Cambodia CITES Secretariat
- File

Bogotá **20-04-2020** **8201-02-318**

Doctora
IVONNE HIGUERO
Secretaria General
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Asunto: Remisión información Notificaciones a las Partes No. 2020/015 y 2020/016

Secretaria Ivonne Higuero

Por medio de la presente comunicación, adjunto enviamos la información solicitada mediante las Notificaciones del tema del asunto, elaborada por la Dirección de Asuntos Marinos, Costeros y Recursos Acuáticos de este Ministerio.

Notificación a las Partes 2020/015

Información sobre las medidas nacionales de gestión de caballitos de mar (*Hippocampus spp.*) y la aplicación y observancia de estas medidas

Notificación a las Partes 2020/016
Información nueva sobre actividades de conservación y gestión de tiburones y rayas, incluyendo el título de la legislación

Atentamente,

EDGAR EMILIO RODIGUEZ BASTIDAS
Director Dirección de Bosques, Biodiversidad y Servicios Ecosistemicos
Autoridad Administrativa Cites de Colombia
Ministerio de Ambiente y Desarrollo Sostenible

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SOLICITUD DE INFORMACIÓN SOBRE ACTIVIDADES DE CONSERVACIÓN Y GESTIÓN DE CABALLITOS DE MAR

De acuerdo a la solicitud de la CITES 18.230 Dirigida a las Partes orientada a la aplicación efectiva del Apéndice II de la CITES en relación con los caballitos de mar, donde se invita a las Partes a:

a) informar a la Secretaría sobre cualquier medida nacional de gestión que regule o restrinja el comercio internacional de caballitos de mar y sobre cómo están aplicando y observando esas medidas para los caballitos de mar; Notificación No. 2020/015 página 2

b) intercambiar copias de sus dictámenes de extracción no perjudicial con la Secretaría para incluirlas en el sitio web de la CITES a fin a ayudar a otras Partes CITES; e

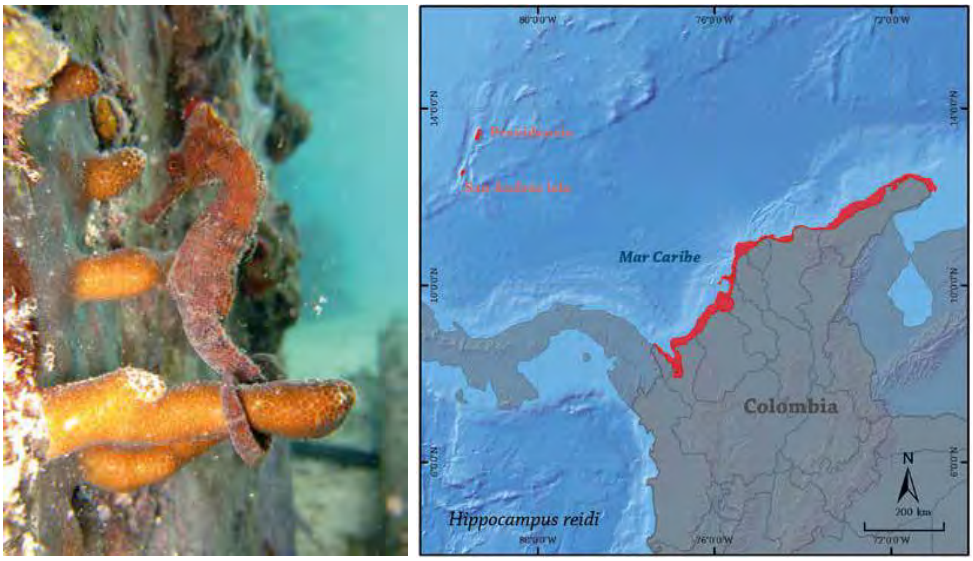
c) informar a los comerciantes de caballitos de mar dentro de su jurisdicción de cualquier cupo, inclusive cualquier cupo nulo, y de cualquier suspensión del comercio para los caballitos de mar a fin de facilitar el cumplimiento y la observancia por todos los participantes en el comercio.

Desde Colombia y en relación a los anteriores puntos se da respuesta de la siguiente manera:

Existen diferentes especies de peces del genero *Hippocampus* o caballitos de mar, de estas principalmente tres presentan interés comercial, *Hippocampus reidi*, *Hippocampus ingens* e *Hippocampus erectus*.

***Hippocampus* reidi** o caballito de mar de hocico largo, se reconoce a nivel internacional como Longsnout seahorse, este se encuentra con amplia distribución en el Caribe y en Colombia a lo largo de gran parte de su costa. En Colombia de desarrolló por parte del Instituto de Investigaciones Marinas y Costeras - Invemar un paquete tecnológico para su reproducción en cautiverio[1].

[1] Gloria Helena Ospina-Salazar, Marisol Santos-Acevedo, Johann López-Navarro, Diana Isabel Gómez-López, Javier E. Álvarez- Barrera y Javier Gómez-León. 2011. Avances en la reproducción y mantenimiento de peces marinos ornamentales. Serie de Publicaciones Generales No. 46. Santa Marta, 100 pág.



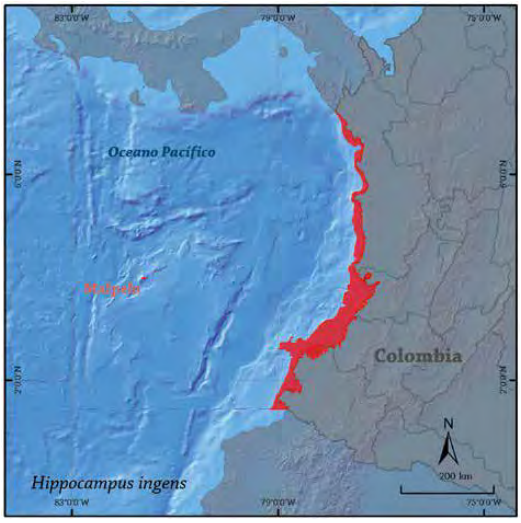
Fotógrafas y mapas Libro rojo de peces marinos de Colombia 2017

Según libro rojo de peces marinos de Colombia (2017) y la Resolución 1219 del 2017 "*por la cual se establece el listado de las especies silvestres amenazadas de la diversidad biológica colombiana continental y marino costera que se encuentran en el territorio nacional, y se dictan otras disposiciones*", esta especie está clasificada de acuerdo a su estado de conservación nacional como Vulnerable – VU.

Desafortunadamente, no existen estudios de las especies de caballitos de mar en vida silvestre la información sobre el estado de sus poblaciones es escasa, y para el caso de Colombia casi inexistente. Aunque no existen estimativos poblacionales de *Hippocampus reidi*, se considera que la especie presenta una disminución poblacional pues es cada vez menos frecuente en los censos visuales de peces, lo que se considera puede estar asociado a los niveles de explotación potenciales debido a la pesca incidental, su uso como suvenir y al deterioro de sus hábitats. [2]

Hippocampus ingens o caballito de mar del Pacífico, esta especie presenta distribución para algunos puntos del mar Pacífico, ha sido registrada en las áreas estuarinas y de manglares entre bahía Baudó y Docampado, al sur de la bahía de Buenaventura, en bahía Guapi, las islas Malpelo y Gorgona (Sterling 1976, Rubio 1987, Rubio 1990, Rubio et al. 1992) y en los riscales en Cabo Corrientes (L. Chasqui, datos inéditos). Ámbito de profundidad: 1 a 60 m (Robertson y Allen 2015). Esta especie no presenta paquete tecnológico y no presenta un interés tal elevado como la anterior.

[2] Chasqui V., L., A. Polanco F., A. Acero P., P.A. Mejia-Falla, A. Navia, L.A. Zapata y J.P. Caldas. (Eds.).2017. Libro rojo de peces marinos de Colombia. Instituto de Investigaciones Marinas y Costeras Invemar, Ministerio de Ambiente y Desarrollo Sostenible.Serie de Publicaciones Generales de INVEMAR# 93. Santa Marta, Colombia. 552 p.



Fotógrafas y mapas Libro rojo de peces marinos de Colombia 2017

Según libro rojo de peces marinos de Colombia (2017) y la Resolución 1219 del 2017 "*por la cual se establece el listado de las especies silvestres amenazadas de la diversidad biológica colombiana continental y marino costera que se encuentran en el territorio nacional, y se dictan otras disposiciones*", esta especie está clasificada de acuerdo a su estado de conservación nacional como Vulnerable – VU.

Es una especie considerada rara en todo su ámbito de distribución (Pacifico oriental), y más aún en Colombia donde el número de registros es escaso. Aunque no existen estimativos poblacionales, la reducción en la presencia de la especie como pesca incidental de pesquerías de arrastre se ha tomado como evidencia de disminución poblacional a nivel regional.

La demanda de la especie en el mercado internacional continúa siendo una razón para retener y comerciar los caballitos que son capturados incidentalmente. En Colombia no existen datos sobre importaciones o exportaciones de caballitos de mar; sin embargo, la captura incidental y el comercio local sumadas al deterioro del hábitat y posibles efectos relacionados con el Fenómeno del Niño se consideran como amenazas importantes para una especie naturalmente escasa como *H. ingens*.

Hippocampus erectus o caballito de mar estriado, es una especie ampliamente distribuida en el Caribe colombiano. Aunque no existen estimativos poblacionales, se considera que la especie presenta una disminución poblacional dada por los niveles de explotación potenciales asociados a pesca incidental, uso como souvenir y el deterioro de su hábitat.

Fotógrafas y mapas Libro rojo de peces marinos de Colombia 2017

Según libro rojo de peces marinos de Colombia (2017) y la Resolución 1219 del 2017 "*por la cual se establece el listado de las especies silvestres amenazadas de la diversidad biológica colombiana continental y marino costera que se encuentran en el territorio nacional, y se dictan otras disposiciones*", esta especie está clasificada de acuerdo a su estado de conservación nacional como Vulnerable – VU.

En general y al igual que las dos especies anteriores, no existen estudios de esta especie de caballitos de mar en vida silvestre; por lo tanto, la información sobre el estado de sus poblaciones es escasa, y en Colombia inexistente.

Tabla resumen de sus estados de conservación nacional y según UICN

Especie	Estado de conservación UICN	Resolución 1912 y libros rojo de peces marinos
***Hippocampus* reidi**	NT	VU
Hippocampus ingens	VU	VU
Hippocampus erectus	VU	VU

Adicionalmente a lo anterior, es importante resaltar que estas especies son consideradas como recurso hidrobiológico en Colombia, por tal motivo dichas especies no presentan cuotas de aprovechamiento a nivel pesquero y como tal el Ministerio de Ambiente y Desarrollo Sostenible (Autoridad Administrativa CITES en Colombia) es la entidad encargada de su manejo y administración. Dicho lo anterior, también es importante mencionar que estas especies en Colombia presentan un interés por el uso comercial de tipo ornamental principalmente para acuarios y como recuerdos turísticos (como llaveros o artesanías), con base en esto desde esta entidad se expidió la **Resolución 0225 del 2018** "*Por la cual se establecen directrices normativas para el manejo, control y uso sobre especies ornamentales marinas y se adoptan otras disposiciones*", en esta se cita el artículo 6 como se menciona a continuación:

"***ARTÍCULO 6. PROHIBICIÓN SOBRE ESPECIES ORNAMENTALES MARINAS.*** *Se prohíbe el ejercicio de actividades que se enlistan a continuación:*

1. La extracción de especies ornamentales marinas nativas del medio natural dentro del territorio nacional, salvo aquellas que sean objeto de investigación y/o zoocría atendiendo los permisos aplicables por ley y según corresponda para cada caso.

2. La introducción al país de parentales, ovas, especies, subespecies, razas o variedades foráneas que hayan sido declaradas como invasoras por el Ministerio de Ambiente y Desarrollo Sostenible; o aquellas potencialmente invasoras de acuerdo con el soporte técnico y científico de los institutos de investigación científica vinculados al Ministerio de Ambiente y Desarrollo Sostenible.

3. La introducción al país de parentales, ovas, especies, subespecies, razas o variedades foráneas que tengan reporte de invasión en otros países como por ejemplo la base de datos de especies invasoras de la IUCN, entre otros"

Dicho lo anterior en Colombia no puede presentarse exportación de individuos de estas especies a menos de que se genere un proceso de zoocría donde a la fecha a excepción del caso del Invemar (Paquete tecnológico para cría en cautiverio) ningún particular a presentado los requerimientos para iniciar dicho proceso.

Por lo anterior se entiende que adicionalmente no se han presentado solicitud de los permisos CITES pertinentes para dichas especies.

a) Dada la explicación anterior desde Colombia a la fecha no existen DENP´s para estas especies
b) Desde Ministerio se ha generado diferentes espacios de socialización de la normativa Resolución 0225 de 2018, abarcando medios digitales, procesos de consulta pública y escenarios especializados como eventos y mesas de trabajo de acuaristas marinos.

Request for information on national management measures for seahorses (*Hippocampus* spp.) and their implementation and enforcement

CITES listed seahorses present in Croatia:

Hippocampus guttulatus
Hippocamppus hippocampus

Both species of seahorses present in Croatia are strictly protected by Nature Protection Act (Official Gazette No. 80/2013, 15/2018, 14/2019, 127/2019) and Ordinance on strictly protected species (Official Gazette No. 144/2013, 73/2016), so fishing, catching or any kind of disturbance of these species, as well as trade in parts or derivatives or any kind of commercial activity, is prohibited. Any prohibited action is subject to legal prosecution. At the moment we are also reviewing Ordinance for financial compensation for damage caused by prohibited action on wild, strictly protected species occuring on national teritory. According to revised list, offender will be charged with substantial amount of money per individual specimen to compensate for damage, in addition to the fine determined by the court.

So far Croatia had only one legal import of few captive bred non-native soecies of seahorses originated from captive-bred stock from another European country.

MINISTRY OF ENVIRONMENT AND FORESTRY REPUBLIC OF INDONESIA
DIRECTORATE GENERAL NATURAL RESOURCES AND ECOSYSTEM CONSERVATION
DIRECTORATE OF BIODIVERSITY CONSERVATION
Manggala Wanabhakti Building, Block VII, 7th Floor
Gatot Subroto St., Jakarta 10270 – Telephone/ fax : 62-21- 5720227

8 June 2020

Our Ref:S.321 /KKH/PKINT/KSA.2/6/2020

Indonesia

To: **MS. Ivonne Higuero**
CITES Secretariat
International Environment House
Chemin des Anemones
CH-1219 Chateline Geneva
Switzerland
Email: info@cites.org

Subject: Request for Information on National Management Measures for Seahorses (*Hippocampus* spp.), Shark and ray Conservation

Dear Madam,

Referring to your notification to the parties No. 2020/015 and No. 2020/016 dated 28 February 2020 regarding the above matters, herewith we would like to inform you as attached.

Thank you for your kind attention and cooperation.

Yours sincerely,

Indra Exploitasia, DVM
Director of Biodiversity Conservation
Email: macites@menlhk.go.id, subditkonvensi.kkh@gmail.com,
nining.ngudi2019@gmail.com, sr.ratna@gmail.com
cc.:

1. Director General of Natural Resources and Ecosystem Conservation, Indonesia;
2. Director General of Law Enforcement of Environment and Forestry;
3. Permanent Mission of The Republic of Indonesia to the UN, WTO, and Other International Organization in Geneva;
4. Director of Research Centre for Biology (Scientific Authority for Indonesia);
5. Director for Development, Economic, and Environment Affairs- Ministry of Foreign Affairs;
6. Director of Marine Conservation and Biodiversity- Ministry of Marine Affairs and Fisheries;
7. Director of Forest Protection, DG of Law Enforcement, Indonesia.

Matriks Draft Respon Notifikasi CITES Seahorses

<table>
<tr><th>No.</th><th>Item</th><th>Remarks</th></tr>
<tr><td>1.</td><td>submit information on any national management measures that regulate or restrict international trade in seahorses, and on how they are implementing and enforcing such measures</td><td>Indonesia has implementing strict management measure for international trade in seahorse by the following action:
a. limited export only from captive breeding operation.
b. set up harvest quota only for broodstock of captive breeding operation and research. the harvest quota of 2016-2019 for seahorses are as follows:
•<table><tr><th>Year</th><th>Harverst Quota</th></tr><tr><td>2016</td><td>600 individuals</td></tr><tr><td>2017</td><td>Hippocampus barbauri:
• 1000 individuals for captive broodstock
• 400 individuals for research
Hippocampus kuda:
• 1000 individuals for captive broodstock
• 250 individuals for research</td></tr><tr><td>2019</td><td>800 individuals for captive broodstock</td></tr></table></td></tr>
<tr><td>2.</td><td>share copies of their non-detriment findings with the Secretariat for posting on the CITES website to assist other CITES Parties</td><td>• There is no NDFs for seahorses because the export quota is given only for live broodstock from captive breeding thus it does not require NDFs.</td></tr>
</table>

Knowledge of the abundance, distribution and habitat preference of seahorses (Hippocampus spp.) in Italian marine waters.

Introduction

Worldwide, seahorses (*Hippocampus* Rafinesque 1810 spp.) are threatened by (i) degradation of their estuarine, seagrass, mangrove and coral habitats, (ii) incidental capture in fishing gear (bycatch), and (iii) overexploitation for use in traditional medicines (supposedly healing respiratory problems and male impotence) and in the aquarium trade (Gristina *et al*., 2015).

In some areas seahorse populations have been reduced by 50% over a 5-year period (Vincent, 1995; 1996; Lockyear *et al*., 1997). Around the mid- 1990s, widespread decline of *Hippocampus* populations was brought to the attention of the international community, leading to their classification as threatened species, inclusion in the World Conservation Union Red List of Threatened Species (Vincent & Hall, 1996; World Conservation Union, 2002) and, in November 2002, CITES Parties voted to list all seahorse species (*Hippocampus* spp.) on Appendix II, with implementation in May 2004.

The aim of this document is to describe the state of knowledge of the seahorse populations in the Italian seas.

I. BACKGROUND INFORMATION ON THE TAXA

1. BIOLOGICAL DATA

1.1. Scientific and common names

Seahorse is the name given to small marine sedentary fish in the genus *Hippocampus* Rafinesque, 1810 of the family Syngnathidae which consists of more than 50 genera of pipefish, pipehorses and seadragons. Over 140 scientific names exist in literature and many more common names are in use. Although easily recognised as a group, many seahorse species are superficially similar in appearance and the large number of names in the literature means that seahorse names are often unreliable.

A revised taxonomy of seahorses (41 species) was published in 2017 based on the best available genetic, morphological and geographic information (Lourie *et al*., 2017). A set of 44 species has been proposed to CoP18 as the Nomenclature Standard Reference for this genus. The CITES checklist (https://cites.org/eng/taxonomy/term/13130) currently recognizes 52 seahorse species and iSeahorse lists 50 species (iSeahorse, 2020).

According to Lourie *et al.* (2017) there are two native species of seahorse in European waters (including Italian waters), *Hippocampus guttulatus* Cuvier, 1829 (synonym of *H. ramulosus)* and *Hippocampus hippocampus* Linnaeus, 1758 but considerable intraspecific variability in morphology within this genus has led to much confusion regarding their taxonomy, and the taxonomy and nomenclature of these species is not stable. In fact, for example there is ongoing discussion as to whether *H. ramulosus* is a simple synonym of *H. guttulatus*, or whether the regional morphological differences observed across the seahorse populations in the region are indicative of different species

1.2. Distribution

Seahorses have a global distribution from about 50° North to 50° South and occupy both temperate and tropical coastal waters (Fig. 1; from Zhang and Vincent, 2018).

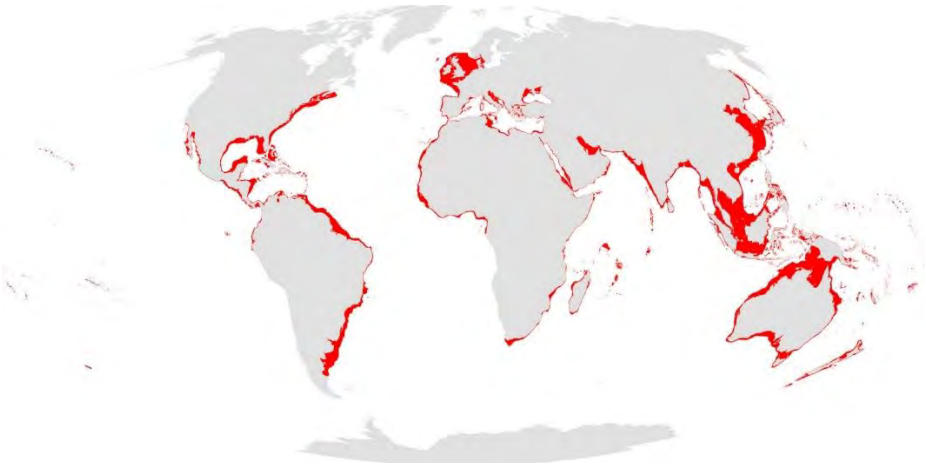


Fig. 1 – Global Map of the potential distribution ranges of all seahorse species (from Zhang and Vincent, 2018).

In figure 2 distribution ranges of *H. guttulatus* and *H. hippocampus* in the Italian waters, based on online data from GBIF (Global Biodiversity Information Facility; www.gbif.org) and iSeahorse (iSeahorse 2016), are showed (modified from Lourie *et al*., 2017). From the comparison between the distribution of the two species, it would seem a greater presence of *H. guttulatus* in the Italian seas. During the last decade seahorse records resulted to be rare or scanty along the major part of Italian coasts. *H. hippocampus* populations appeared to be scattered, showing peaks of abundance in the Northern Tyrrhenian (Tuscany and Liguria), Northern Adriatic (Goffredo *et al.*, 2004) and Mar Piccolo, Taranto (Gristina *et al*., 2015), although the latter was not reported by Lourie *et al*. (2017).

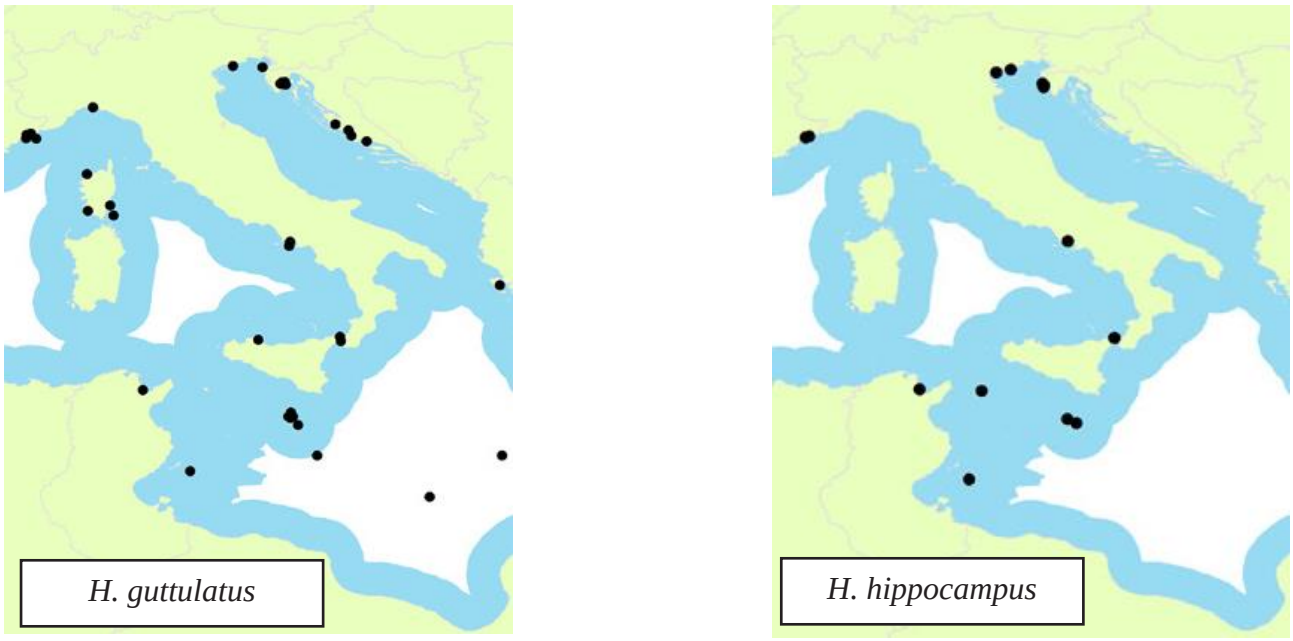


Fig. 2. Range map for H. guttulatus and H. hippocampus in the Italian waters based on online data from GBIF and iSeahorse (Modified from Lourie et al., 2017). Black dots represent author-vetted GBIF data points.

1.3 Biological characteristics

1.3.1 *General biological and life history characteristics of the species*

Seahorses are ambush predators, have peculiar life strategies (sparse distribution, low mobility, small home ranges, low fecundity, lengthy parental care, and mate fidelity) and avoid predation by using camouflage. An exhaustive description of Life history and ecology of seahorses is reported in Foster and Vincent (2004).

At present the knowledge on this issue in the Italian seas is scarce, scattered and not exhaustive. In terms of body size; Lazic *et al*. (2018) noted marked differences along the Apulian coast between the two Mediterranean species. *H hippocampus* did not reveal significant differences among the Apulian sites. Conversely, the *H. guttulatus* population structure was shifted towards larger sizes at Porto Cesareo and Polignano a Mare, with a lack of juveniles below 80 mm of standard body length (SL). The lack of smaller sizes might reflect problems in local recruitment, which seems rather alarming for Porto Cesareo, where there has been a regime of habitat protection since 1997. On the contrary, a study in 2015 reports for the first time after 50 years the occurrence of the seahorse *H. hippocampus* in the Natural Reserve of Capo Peloro (Faro Lake; Spinelli *et al*., 2018).

Gristina *et al*. (2017) in a study on the long-snouted seahorse *H. guttulatus* in the Mar Piccolo of Taranto (Apulia, Italy) have sighted, from October 2012 to January 2014, a total of 317 individuals: 148 were juveniles, 82 adult females and 87 adult males.

The optimum depth in which seahorses live in Italian seas seems to be between 1 and 10 m (Goffredo *et al*., 2004; Lazic *et al*., 2018). Seahorse abundance decreases exponentially with increasing depth (dept bands: 1–10, 11–20, 21–30, 31–40 m) (Goffredo *et al*., 2004).

Along the Apulian coast, a yearly sampling highlighted the constancy of the observations (sites combined), with a slight yet significant increase in their number during 2014, with respect to 2011 and 2013 (Lazic *et al*., 2018).

1.3.2 Habitat types

Seahorses inhabit shallow, coastal areas worldwide and most species are generally found among seagrasses, macroalgae, mangrove roots, and corals, while others live on open sandy or muddy bottoms. Some species are also found in estuaries or lagoons. Seahorses have a strict association with preferential habitat, tend to be patchily distributed at low densities, and are highly influenced by anthropogenic disturbances that represent the main threat to their integrity.

H. hippocampus and *H. guttulatus* are associated with a wide variety of benthic habitats (Curtis and Vincent, 2005; Franco *et al*., 2006; Goffredo *et al*., 2004). In conservation terms, this feature can be interpreted as positive, as species that are able to occupy several complex habitats may be less prone to extinction.

According to Goffredo *et al*. (2004), the preferred habitats of seahorses along the Italian coasts are areas with sandy bottoms and meadows of *Posidonia oceanica*. While the frequency of *H. hippocampus* sightings appeared relatively high in both these environments, *H. guttulatus* showed a marked preference for habitats with sandy bottoms. Lazic *et al.* (2018) found the highest density of individuals of *H. hippocampus* and *H. guttulatus* along the Apulian coast in habitats of low-energy artificial substrata communities and littoral sediments dominated by macroalgae,

1.3.3 Role of the species in its ecosystem

Seahorses are a flagship species of the ecosystems they inhabit. However, little is known about their functional role in the ecosystem.

Several species of invertebrates, fishes, sea turtles, waterbirds and marine mammals prey on seahorses (Kleiber *et al*., 2010). Predation by seabirds has also recently been linked in response to environmental change/disappearance of preferred prey species.

Crustaceans (mainly Amphipoda and Copepoda) have been considered one of the main food items consumed by seahorses (Ape *et al*., 2019). Nematodes were also highly preyed in all habitats. Moreover, *H. guttulatus* showed a great ability to exploit available resources in the best possible manner among different habitats, acting as a specialist predator.

1.4 Population

Current population sizes for *H. guttulatus* and *H. hippocampus* in the Italian waters are unknown. However, population monitoring is essential to determine current status and manage conservation. According to many local fishermen, until the 1960s, seahorses were so abundant along the Italian coasts that it was common to find many dead beached individuals after severe storms.

The frequency of seahorse sightings (number of individuals per diving hour) in the waters of the Italian regions in the period 1999-2001 is shown in Figure 3 (Goffredo et al., 2004; http://wwwo.marinesciencegroup.org/mhm%20relazione.htm). Veneto and Friuli-Venezia Giulia were the regions with the highest sighting frequency, while Sicily, Tuscany and Marche had the lowest one. The observed pattern seems to agree with the literature data for the Mediterranean, where most seahorse records refer to *H. guttulatus* (Goffredo *et al*., 2004; Gristina *et al*., 2015; Louisy, 2011). Indeed, Goffredo *et al*. (2004) report a ratio of *H. guttulatus* to *H. hippocampus* of 3.4:1.0. Such evidence is also confirmed along the Apulian coast (Lazic et al., 2018). In this area recent studies (Gristina *et al*., 2015, 2017) have reported dense populations of both species in the Taranto Mar Piccolo lagoon on the Ionian coast of Apulia (*H. hippocampus* from 0.03 ×10−3 ind./m^2 to 0.04 ×10^{-1} ind./m^2; *H. guttulatus* from 0.03 ×10^{-3} ind./m^2 to 0.034 ind./m^2). Along the Apulian coast, *H. guttulatus* and *H. hippocampus* displayed temporal persistence, patchy distribution, and a high spatial demographic heterogeneity (Lazic *et al*., 2018).

Moreover, a very high density of *H. hippocampus* (0.006 ± 0.003 ind./m^2) has been also reported in the bay of Soverato (Calabria Region; Canese *et al*., 2007), with a value in line with the maximum abundance values (0.007 ind./m^2) occurring in a highly productive lagoon in southern Portugal (Curtis and Vincent, 2005). In the Venetian lagoon density estimates of *H. hippocampus* showed decidedly lower values (0.0001 ind./m^2; Franco et al., 2006).

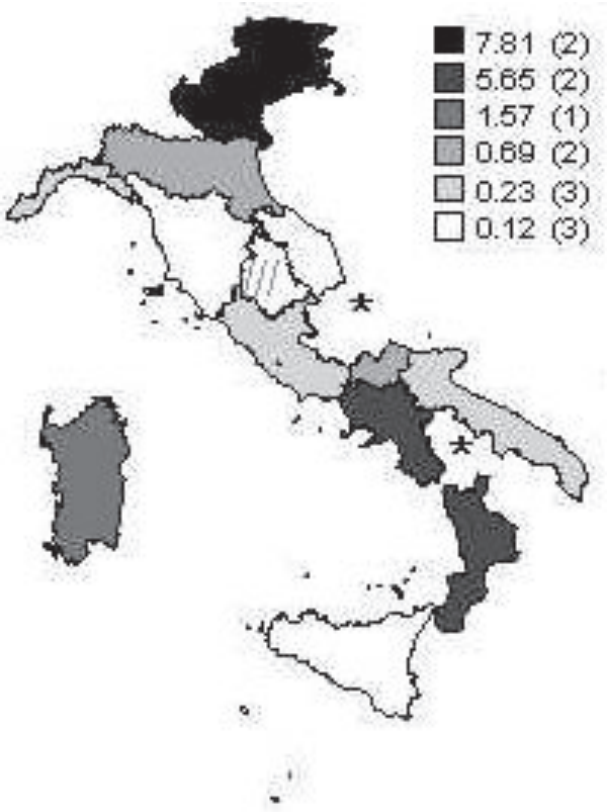


*Fig. 3. Frequency of Hippocampus spp sightings (number of individuals per diving hour) in the waters of the Italian regions (http://wwwo.marinesciencegroup.org/mhm%20relazione.htm) in the period 1999-2001. *No data regions.*

1.4.1 Current global population trends

___increasing _X_decreasing ____ stable _X_unknown

1.5 Conservation status

1.5.1 Global conservation status (according to IUCN Red List)

___Critically endangered ___Near Threatened

___Endangered ___Least concern

___Vulnerable _X_ Data deficient

2. LEGAL FRAMEWORK AND LEGISLATION

2.1. Legal framework and law enforcement: Provide details of national and international legislation relating to the conservation of the species

In November 2002 seahorses *Hippocampus* spp. became the first marine fish genus to be listed in Appendix II since the inception of CITES, with the listing entering into force in May 2004. Species listed in Appendix II are not at immediate risk of extinction but may become threatened if trade is not adequately controlled (Article II; CITES, 1979). In theory, being listed in Appendix II improves the health of wild populations because Parties to the Convention must ascertain that trade does not threaten wild populations or their role in the ecosystem (Article IV; CITES, 1979). National management authorities are required to authorize exports of specimens through permits, ensure that exported specimens were obtained in accordance with domestic laws, and submit annual trade reports to the CITES Secretariat.

H. hippocampus and *H. guttulatus* are two seahorse species present in the Mediterranean Sea. Although both species have been assessed as "Data Deficient" at a global level (IUCN), in the Mediterranean Sea and along the Italian coast they have recently been reassessed as Near Threatened (Relini *et al*., 2017). They also have a special conservation status according to the Oslo/Paris Convention (OSPAR), European CITES (Curd, 2009), the Bern Convention, and the Barcelona Convention (Abdul Malak *et al*., 2011). Both species are protected by the UK Wildlife and Countryside Act, and are among the UK Biodiversity Action Plan priority species.

The Italian legislation of reference is the law n. 150/1992. This law refers to the species listed in Annex B) of the Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein.

3. TRADE

3.1. Export

Basing on the CITES Trade Database (*https://trade.cites.org*) export of *Hippocampus* spp. from Italy to other countries is very scarce and does not involve *H. guttulatus* and *H. hippocampus*. Indeed, only one movement of specimens of *Hippocampus erectus* within Italy (source: unknown) in 2000 and one export of 30 specimens of *Hippocampus abdominalis* (source: C) to Israel in 2017 are reported over the period 1975-2019 (Table 1).

Table 1. Italy: import of Hippocampus spp. from 1975 to 2019 (from CITES Trade Database https://trade.cites.org).

Comparative Tabulation Report

Year	App.	Taxon	Class	Order	Family	Genus	Importer	Exporter	Origin	Importer reported quantity	Exporter reported quantity	Term	Unit	Purpose	Source
2000	N	Hippocampus erectus	Actinopteri	Syngnathiformes	Syngnathidae	Hippocampus	IT	IT		61		live			
2017	II	Hippocampus abdominalis	Actinopteri	Syngnathiformes	Syngnathidae	Hippocampus	IL	IT			30	live		Z	C
2017	II	Hippocampus abdominalis	Actinopteri	Syngnathiformes	Syngnathidae	Hippocampus	IL	IT		20		live			

3.2. Import

The CITES Trade Database (*https://trade.cites.org*) reports that from 1998 until 2016 74,646 specimens of different species belonging to the genus *Hippocampus* (source: W, C, and F) were imported from different countries (Brazil, Costa Rica, Shri Lanka, Singapore, Indonesia Philippines, Viet Nam, Australia, USA, Thailand, Perú, United Republic of Tanzania, Senegal, El Salvador, Malaysia, Cuba, and Switzerland). The majority were alive individuals and, to a minor extent, skeletons and bodies.

The import of *H. hippocampus* occurred until 2004 and amounted up to at least 8,684 units, 3,684 of which were alive specimens (source: unknown) and 5,000 bodies (source: unknown). The export countries were Brazil, Costa Rica, Shri Lanka, Singapore, Indonesia and Philippines.

The import of *H. guttulatus* amounted to 576 alive specimens from Indonesia and Philippines in the years 1998-2004.

Specimens of these two species have been no longer imported since 2005.

The other species taxa/of *Hippocampus* imported were: *Hippocampus* spp., *Hippocampus erectus, Hippocampus jayakari, Hippocampus kuda, Hippocampus mohnikei, Hippocampus reidi, Hippocampus trimaculatus, Hippocampus angustus, Hippocampus coronatus, Hippocampus abdominalis, Hippocampus comes, Hippocampus histrix, Hippocampus ingens, Hippocampus zosterae, Hippocampus barbourin, Hippocampus breviceps,* and *Hippocampus denise*,

3. CONCLUSIONS

This study wants to provide an overview of *H. hippocampus* and *H. guttulatus* status in Italian marine waters. In terms of population, seahorse abundance varied widely in Italian seas, with the northern Adriatic Sea showing greatest abundance, followed by the central-southern Tyrrhenian Sea, while was rare in the Ligurian and northern Tyrrhenian seas. The current state of wild populations does not allow for a collection in nature of seahorse specimens, indeed we should implement the protection of the habitat template of the seahorse, and therefore there are no conditions for the drafting of a non-detriment finding.

To date the protection measures that ensure the preservation of ecological processes in the Mediterranean marine environments do not give sufficient attention to the habitats in which seahorses usually live. As both Mediterranean seahorse species are currently classified as Data Deficient by IUCN, any range-wide conservation measures should also encompass long-term monitoring so that the threat status of these iconic fish can be reassessed.

According to Zhang and Vincent (2019) a network of marine protected areas (MPA) would be part of an effective scheme for seahorse in situ conservation. These MPAs should combine different habitat types and safeguard shallow waters, should be large enough to account for changing environmental conditions and be close enough to each other to ensure genetic and demographic connectivity (Woodall et al., 2018).

In the last decades no import-export of seahorses belonging to the populations leaving in the Italian waters has occurred. On the other hand, the two species, as well as other Hippocampus species, were abundantly imported by Italy until 2016.

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Information from Japan in response to CITES Notification 2020/015 regarding the request for information on national management measures for seahorses (Hippocampus spp.) and their implementation and enforcement

In response to the CITES Notification 2020/015 regarding the request for information on seahorse management measures that regulate or restrict international trade in seahorses, Japan hereby submits its feedback as follows.

Japan made a reservation to the listing of *Hippocampus spp.* in Appendix II in 2004. Nonetheless, notwithstanding paragraph 3 of Article XV of CITES, upon exporting the species to all countries including those which are not parties to CITES, Japan voluntarily conducts procedures related to export permits that are required under CITES, in accordance with its relevant laws and regulations.

In the past decade, Japan issued only one export permit for *Hippocampus spp.* It is mainly because there is no specialized fishery targeting seahorses in Japan. The only case was an export of 15 live specimens in 2015, which were bred in an aquarium with a relevant method that has been proved to be viable to make F2 generation.

Dejana Radisavljevic

From: UNOG-UNEP-CITES Info
Sent: Wednesday, 1 April, 2020 16:59
To: Thomas De Meulenaer
Cc: Karen Gaynor; Dejana Radisavljevic
Subject: FW: Request for information on national management measures for seahorses (Hippocampus spp.) and their implementation and enforcement
Attachments: E-Notif-2020-015.pdf

Dear colleagues,

Be informed of the following.

Best,
Pascal

Pascal Perraud (Mr)
Governing Bodies and Meeting Services
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
Direct : +41 (22) 917 84 50 / Fax : +41 (22) 797 34 17
Email : pascal.perraud@cites.org
Web : https://www.cites.org

Postal address:	**Street address:**
CITES Secretariat Palais des Nations Avenue de la Paix 8-14, 1211 Genève 10, Switzerland	Maison Internationale de l'Environnement 15 Chemin des Anémones 1219 Châtelaine-Genève, Switzerland

From: Brincat Camilleri Pauline at ERA <pauline.brincat-camilleri@era.org.mt>
Sent: Wednesday, 1 April, 2020 4:15 PM
To: UNOG-UNEP-CITES Info <cites.info-cites@un.org>; Daniel Kachelriess <daniel.kachelriess@cites.org>
Cc: International Affairs at ERA <international.affairs@era.org.mt>; EU Affairs at ERA <eu.affairs@era.org.mt>; Brincat Aimee at ERA <aimee.brincat@era.org.mt>; Henwood Jonathan at ERA <jonathan.henwood@era.org.mt>; Aquilina Anthony J at ERA <anthony.j.aquilina@era.org.mt>

Subject: FW: Request for information on national management measures for seahorses (Hippocampus spp.) and their implementation and enforcement

Dear Colleagues,

In Malta we implement national management measures with regards to *Hippocampus hippocampus* and *Hippocampus guttulatus* which are strictly protected through National Legislation, mainly The Flora, Fauna and Natural Habitats Protection Regulations, 2006. This legislation states that the species of seahorses are strictly protected and collection of species and destruction of their habitat is strictly prohibited. Permits are only granted to carry out studies on these species for the advancement of scientific knowledge to further protect the species in question. With regards to the rest of the species of seahorses, the European Wildlife Trade Regulations (EC338/97) and the CITES Convention are implemented accordingly.

Thanks and kind regards,

Pauline Brincat Camilleri
Senior Officer Environmental Permitting | Environmental Permitting

ERA

Environment & Resources Authority
Hexagon House, Spencer Hill, Marsa, MRS 1441, Malta.
T | +356 22923801 W | era.org.mt

From: noreply@cites.org <no_reply@cites.org>
Sent: Friday, 28 February 2020 19:06
To: CITES Permitting at ERA <cites.permitting@era.org.mt>
Subject: [EXTERNAL] - New Notifications to the Parties to CITES
Importance: High

The following Notifications to the Parties was posted on the CITES website on 28 February 2020:

N°. 2020/015 -	Request for information on national management measures for seahorses (Hippocampus spp.) and their implementation and enforcement
N°. 2020/016 -	Request for new information on shark and ray conservation and management activities, including legislation title

The Notifications can be viewed on the page below:

http://cites.org/eng/notif/index.php

CITES Secretariat
International Environment House
11 Chemin des Anemones
CH-1219 Chatelaine, Geneva
Switzerland
Fax: +41-22-797-34-17
Email: info@cites.org

https://www.cites.org/eng/newsletter/confirm/remove/5485c9fc286801t118

MÉXICO
MISIÓN PERMANENTE ANTE LA ONU
Y OTROS ORGANISMOS INTERNACIONALES
CON SEDE EN GINEBRA, SUIZA

OGE01449

La Misión Permanente de México ante la Oficina de las Naciones Unidas y otros Organismos Internacionales con sede en Ginebra, saluda muy atentamente a la Secretaría General de la Convención sobre el Comercio Internacional de Especies Amenazadas de Flora y Fauna Silvestres (CITES), y tiene el honor de hacer referencia a las Notificaciones No. 2020-015 y 2020/016 de fecha 28 de Febrero de 2020.

Al respecto, la Misión Permanente se permite anexar dos documentos elaborados por las autoridades CITES del Gobierno de México, que contiene información sobre sobre las medidas nacionales de gestión de caballitos de mar (Hippocampus spp) y la aplicación y observancia de estas medidas, así como información sobre actividades de conservación y gestión de tiburones y rayas, incluyendo legislación.

La Misión Permanente de México ante la Oficina de las Naciones Unidas y otros Organismos Internacionales con sede en Ginebra, aprovecha la oportunidad para reiterarle las seguridades de su más alta y distinguida consideración.

Ginebra, 14 de abril de 2020

Secretaría General de la Convención sobre el Comercio Internacional de Especies Amenazadas de Flora y Fauna Silvestres (CITES), Ginebra.

Respuesta a la Notificación a las Partes No. 2020/015

Solicitud de información sobre las medidas nacionales de gestión de caballitos de mar (*Hippocampus spp.*) y la aplicación y observancia de estas medidas
Periodo reportado de mayo del 2018 a marzo de 2020

A fin de apoyar la aplicación efectiva del Apéndice II de la CITES en relación con los caballitos de mar, se invita a las Partes a:

a) informar a la Secretaría sobre cualquier medida nacional de gestión que regule o restrinja el comercio internacional de caballitos de mar y sobre cómo están aplicando y observando esas medidas para los caballitos de mar;

El género *Hippocampus* está representado en México por cuatro especies, *H. ingens, H. erectus, H. reidi y H. zosterae*. Dado que las cuatro especies se encuentran protegidas por la legislación nacional al estar listadas como Sujetas a Protección Especial (Pr; desde 2001) en la Norma Oficial Mexicana NOM-059-SEMARNAT-2010 y su modificación al Anexo Normativo III publicado en 2019, su gestión recae en la Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT) bajo las disposiciones de la Ley General de Equilibrio Ecológico y Protección al Ambiente (LGEEPA) y la Ley General de Vida Silvestre (LGVS) y sus reglamentos. Su manejo puede realizarse a través de tres esquemas distintos:

1. **Unidades de Manejo para la Conservación de Vida Silvestre (UMA)**: para integrar las estrategias ambientales, económicas, sociales y legales enfocadas a la vida silvestre, que permiten promover una participación social amplia y crear incentivos económicos realistas para su correcto manejo, se creó el Sistema Nacional de Unidades de Manejo para la Conservación de la Vida Silvestre (SUMA), concibiendo a las Unidades de Manejo para la Conservación de Vida Silvestre (UMA) como espacios para promover esquemas alternativos de producción compatibles con el cuidado de la vida silvestre, mediante el uso racional, ordenado y planificado de los recursos naturales renovables en ellas contenidos, y que frenaran o revirtieran los procesos de deterioro ambiental. Cada UMA debe contar con un Plan de Manejo aprobado por la SEMARNAT (Artículo 3° fracción XLV y 40 de la Ley General de Vida Silvestre). Dicho Plan es el documento operativo en el que se describen y programan actividades de manejo de especies silvestres y su hábitat, y se establecen metas e indicadores de éxito en función del hábitat y las poblaciones. Las UMA son registradas en la Dirección General de Vida Silvestre (DGVS, que es la Autoridad Administrativa CITES de México), en las Delegaciones Federales de la SEMARNAT en los Estados o en las oficinas de gobierno para los estados descentralizados, de acuerdo con el tipo de manejo y aprovechamiento bajo las siguientes categorías:

    i. **Manejo en vida libre**, se refiere al que se hace con ejemplares o poblaciones de especies que se desarrollan en condiciones naturales, sin imponer restricciones a sus movimientos, donde se pueden realizar actividades de conservación y aprovechamiento sustentable.
    ii. **Manejo intensivo**, es aquel que se realiza sobre ejemplares o poblaciones de especies silvestres en condiciones de cautiverio y tienen como fin la recuperación de especies o poblaciones para su posterior reintegración a la vida silvestre.

2. **Predios o Instalaciones que Manejan Vida Silvestre en Forma Confinada, Fuera de su Hábitat Natural (PIMVS)**: Son criaderos intensivos, viveros, jardines botánicos o similares que manejan vida silvestre de manera confinada con propósitos de reproducción controlada de especies o poblaciones para su aprovechamiento con fines comerciales. De acuerdo con el Artículo 78 de la LGVS y 27 de su Reglamento, dichos predios sólo podrán operar si cuentan con planes de manejo aprobados por la SEMARNAT y además deberán registrarse y actualizar sus datos anualmente ante la autoridad correspondiente, en el padrón que para tal efecto se lleve…".

3. **Predio Federal (PF)**: en el caso de predios que sean propiedad federal, la SEMARNAT "podrá otorgar la autorización para llevar a cabo el aprovechamiento sustentable en dichos predios y normar su ejercicio, cumpliendo con las obligaciones establecidas para autorizar y desarrollar el aprovechamiento sustentable" (Artículo 89, LGVS). Este es el caso de los Predios Federales de los que se extraigan caballitos de mar silvestres, que también requieren la presentación de un plan de manejo e informes anuales.

Asimismo, es posible tramitar autorizaciones para realizar la colecta de ejemplares, partes y derivados con fines de investigación científica y propósitos de enseñanza, que también requieren presentar una descripción de la línea de investigación o proyecto, y un informe anual de actividades.

En 2020, existen 9 UMA intensivas y 5 PIMVS registrados para el manejo de caballitos de mar, de los cuales sólo 5 UMA/PIMVS realizaron aprovechamientos entre 2004 y 2020 (*H. ingens, H. reidi y H. erectus*), mismas que se registraron ante la SEMARNAT después del listado de las especies en la CITES (2004, 2007 y 2015), y sólo dos exportaron (*H. ingens*) en el mismo periodo. Estas UMA/PIMVS obtuvieron sus planteles parentales a través de autorizaciones para colecta científica (2), donación de pescadores (1) o de otro criadero (1), no han introducido nuevos individuos silvestres en su producción y ya han logrado producir varias generaciones (3).

A nivel nacional, la SEMARNAT publicó el "Plan de manejo tipo para peces marinos de ornato" (PMT; SEMARNAT, 2012) con objetivos, metas e indicadores de éxito, métodos para establecer el polígono del Predio Federal para aprovechamiento, identificar las áreas con hábitat disponible y caladeros pesqueros (zonas de pesca y no pesca), métodos de muestreo (poblacional y del hábitat), bitácoras de aprovechamiento/captura (sitios, especies, problemas), talla y mortalidad (captura, empaque y transportación), y medidas de manejo para el aprovechamiento sustentable de peces marinos de ornato en general.

b) intercambiar copias de sus dictámenes de extracción no perjudicial con la Secretaría para incluirlas en el sitio web de la CITES a fin a ayudar a otras Partes CITES;

La Comisión Nacional para el Conocimiento y Uso de la Biodiversidad (CONABIO) como Autoridad Científica CITES de México (AC-CITES), a la fecha no ha elaborado dictámenes de extracción no perjudicial (NDF) para caballitos de mar.

Sin embargo, entre 2018 y 2019, realizó el proyecto "Análisis de la cría en cautiverio, aprovechamiento y comercio de caballitos de mar (*Hippocampus spp.*) y oportunidades para fortalecer la implementación de la CITES en México" (Proyecto *"Hippocampus"* 2018-2019). Derivado de dicho proyecto, se cuenta con una compilación de información actualizada sobre los parámetros biológicos y poblacionales de las especies, el marco legal y lineamientos de manejo (Cuadro 1), comercio legal e ilegal a nivel nacional e internacional, detalles sobre las condiciones para la cría en cautiverio, propuestas de

acciones encaminadas a su conservación y uso sustentable, y los presentes lineamientos para la formulación de NDF en México (Cuadros 2 y 3), mismos que retoman iniciativas y materiales desarrollados por organizaciones como *Project Seahorse* y TRAFFIC Norteamérica, entre otros.

Cuadro 1.- Información/documentación necesaria para la formulación de NDF u Opiniones Técnicas sobre la sustentabilidad del aprovechamiento de ejemplares silvestres (OT) de caballitos de mar. Salvo por los puntos 1 y 2 que se requieren sólo para la emisión de NDF, la información es aplicable tanto a NDF como a OT.

Información/Documentación		Especificaciones con las que se debe contar
1	Oficio de solicitud	Cantidad y tipo de especímenes (presentación) solicitada para exportar o aprovechar, promovente (NDF; empresa exportadora)
2	Solicitud de exportación	Destino, cantidad y tipo de especímenes (presentación)
3	NDF u OT emitidos previamente	Consideraciones técnicas elaboradas previamente
4	Plan de manejo (PM) del Predio Federal	Información sobre el predio de origen, manejo, métodos de muestreo/monitoreo poblacional y de aprovechamiento
5	Informe anual (IA) del Predio Federal	Estimaciones poblacionales, resultados del manejo, cumplimiento de objetivos, avances en los indicadores de éxito, información sobre el aprovechamiento, inventarios
6	Información sobre la sustentabilidad de la tasa de aprovechamiento solicitada u otorgada	Tasa de aprovechamiento solicitada y su fundamento (con respecto a la tasa de renovación natural de la especie y con base en los datos de monitoreo)
7	Características específicas del aprovechamiento	Predio de origen, superficie, temporada de aprovechamiento, cantidad y clase autorizadas, fecha de validez de la autorización
8	Información adicional (proyectos, consulta con expertos talleres, literatura, bases de datos, informes; si están disponibles)	Biología poblacional, evaluaciones del estado de conservación, valores de referencia, historial de aprovechamiento y monitoreo (tendencias). **Es importante contar con datos sobre la pesca incidental, descartes, pesca IUU y el estado de conservación del hábitat**

Consideraciones técnicas

A continuación, se describen los pasos a seguir para elaborar consideraciones técnicas para NDF u OT de caballitos de mar (Cuadro 2). Asimismo, se incluyen fuentes de apoyo que contienen valores de referencia, literatura o guías que se pueden utilizar para determinar si los datos, métodos y manejo de las especies son adecuados y por tanto las estimaciones son confiables.

Información necesaria para formular NDF u OT de caballitos de mar (Cuadro 2)

Cuadro 2.- Pasos para elaborar consideraciones técnicas para NDF u OT de caballitos de mar

Paso		Descripción	Fuentes de apoyo
1	*Retomar NDF u OT previos*	• Consultar información sobre NDF u OT previos para ese predio, en su caso. • Si no existen NDF u OT previos, se debe analizar la documentación proporcionada con la solicitud (**paso 2**) • Si existen NDF previos en los que se había invitado a solicitar la OT a la AC-CITES, se trata de una nueva autorización de aprovechamiento y no hay OT, en principio se emitirá un NDF negativo, salvo que en los NDF previos todo haya estado en orden con el Plan de Manejo (PM) y, en su caso, se hayan acatado las recomendaciones emitidas. De ser así, pueden retomarse las consideraciones técnicas (previa lectura para detectar cualquier posible mejora que pudiera hacerse y ajustar en caso de contar con información o datos adicionales recibidos con la solicitud). • Si existe OT, indicar el oficio con que fue emitida y si se siguieron las recomendaciones de la AC-CITES sobre el PM y la tasa de aprovechamiento. Si la OT previa fue negativa o parcial y se recibe información adicional, hay que revisar la original para determinar si se cubren la falta de datos y/o las recomendaciones emitidas en su momento. • Verificar que las tasas de aprovechamiento o niveles de exportación solicitados sean congruentes y no excedan lo recomendado/dictaminado	
2	*Analizar la documentación:*	• Aunque deben analizarse los siguientes elementos, no es necesario incluir consideraciones para todos en el oficio de respuesta, sólo aquellos para los que se detecte alguna inconsistencia, oportunidad de mejora (que derive en recomendación) o duda, y para el resto, en su caso, mencionar que los datos, métodos o estimaciones son adecuados (lo cual puede englobarse en un párrafo). • Para aquellos puntos que ameriten incluirse, se puede describir brevemente el contenido del documento analizado y a continuación la inconsistencia o duda correspondiente.	

	Sitio de origen	Proyectar en un mapa (p.e. Google Earth, GIS) las coordenadas disponibles en PM, IA o información proporcionada por las autoridades para, en su caso, verificar la ubicación del predio, sitios de muestreo, Área Natural Protegida, con respecto a lo descrito en el PM y demás documentación En el caso de peces de ornato como los caballitos de mar, el Plan de Manejo Tipo (PMT) señala que deben proporcionarse mapas/coordenadas del polígono del PF (2 vértices en tierra y 2 vértices en mar), los caladeros o sitios pesqueros con sus características batimétricas (no mayores a 500x500m o subdivididos en estas dimensiones; con 4 vértices c/u a una profundidad máxima de 20-25m) y las áreas de captura/no captura	○ PMT de peces marinos de ornato (SEMARNAT, 2012)
	Estimaciones poblacionales	a) Métodos de muestreo en campo: • Determinar si los siguientes puntos son adecuados según la distribución, tamaño y comportamiento de la especie, y los supuestos estadísticos del método de análisis que se utilizará (inciso c): ○ Método de muestreo en campo (p.e. aleatorio, sistemático) ○ Forma y tamaño de los sitios de muestreo (p.e. cuadrantes, transectos) ○ Distribución de los sitios de muestreo (p.e. ubicación y distancia entre ellos) ○ Método de estimación del tamaño de muestra (número de sitios de muestreo) o intensidad/esfuerzo de muestreo y error/confiabilidad ○ Fechas del muestreo ○ Método para tomar medidas de los individuos • Aunque el PMT sugiere utilizar cuadrantes para los muestreos, la recomendación de *Project Seahorse* es utilizar transectos para evitar sobreestimaciones o subestimaciones debido a la ubicación de los cuadrantes en zonas de mayor o menor abundancia • El PMT recomienda realizar muestreos 2 veces al año en las mismas temporadas	○ PMT de peces marinos de ornato (SEMARNAT, 2012) ○ *Making NDF for seahorses* (Foster y Vincent, 2016) ○ *Underwater visual census for seahorse population assessments* (*Curtis et al., 2004*) ○ *Trends toolkit* (Loh et al., 2004) ○ *Measuring seahorses* (Lourie, 2003) ○ Proyecto *Hippocampus* 2018-2019 (valores de referencia)
		b) Datos de campo: • Determinar si los datos de campo (variables medidas a los individuos/sitios de muestreo) son los necesarios para realizar las estimaciones (inciso d) de acuerdo al método de análisis que se utilizará (inciso c).	

		• *Project Seahorse* (Curtis et al., 2004) considera que los parámetros esenciales para una evaluación poblacional son la presencia/ausencia, talla y sexo, mientras que la ubicación en el transecto, actividad reproductiva, comportamiento y condición son opcionales.	
		c) Métodos de procesamiento, cálculo y análisis de los datos de campo: • Rehacer los cálculos (operaciones) para verificar que sean correctos y/o utilizar las fórmulas/métodos recomendados • Tanto el PMT como *Project Seahorse* menciona que se puede utilizar la extrapolación de la densidad de caballitos de mar al área con hábitat/sustrato disponible para obtener una estimación de la abundancia	
		d) Resultado de las estimaciones: • Reflexionar sobre el resultado final de las estimaciones de distribución, densidad, tamaño y estructura poblacional y tendencia (si se cuenta con información de muestreos previos comparables), con respecto a los valores de referencia disponibles • Los indicadores de impacto negativo de las pesquerías (estimables mediante monitoreo poblacional, de pesquerías o entrevistas a pescadores/comercializadores) implican: ○ Disminuciones en: - Distribución (presencia/ausencia) - Abundancia relativa (tamaño poblacional y/o CPUE) - Tamaño promedio de los individuos - Frecuencia de machos embarazados ○ Cambio en la proporción de sexos	
	Aprovechamiento y exportación	a) Criterios para definir áreas de aprovechamiento El PMT señala que deben identificarse los caladeros o sitios pesqueros con sus características batimétricas y las áreas de captura/no captura	○ PMT de peces marinos de ornato (SEMARNAT, 2012)
		b) Métodos de conversión (factores, coeficientes, rendimiento, etc.) • Foster y Vincent (2016) resaltan la importancia de indicar en los permisos CITES el tipo de espécimen (vivo, muerto, procesado) y unidades (piezas, cuerpos, peso, etc.)	○ *Making NDF for seahorses* (Foster y Vincent, 2016) ○ *Bycatch of lined seahorses Hippocampus erectus in a Gulf of Mexico shrimp*

		• Baum *et al*. (2003) y Baum y Vincent (2005) obtuvieron datos que permiten la conversión peso vivo/peso seco (también utilizados por Evanson et al., 2011)	*trawl fishery* (Baum *et al*., 2003) ○ *Magnitude and inferred impacts of the seahorse trade in Latin America* (Baum y Vincent, 2005) ○ *Tracking the international trade of seahorses Hippocampus species* (Evanson *et al*., 2011)
		c) Métodos de aprovechamiento y estimación de la tasa (técnicas de extracción, segmento de la población que se pretende aprovechar, límites por cuota, sexo, edad, talla, vedas, etc.) • Considerar que el Comité de Fauna de la CITES recomendó como medida precautoria para formular NDF una medida de 10cm como límite de talla mínima para la exportación de especímenes silvestres de caballito de mar • Considerar todos los tipos/artes de pesca (directa e incidental), cantidad y frecuencia de individuos capturados y selectividad por sexo/talla, asumiendo que: ○ Aún cuando un bote sólo capture uno o dos caballitos por viaje, el total de viajes y botes en una flota puede implicar la captura de un número considerable de individuos ○ Cualquier descarte implica la remoción de individuos de la población (es muy poco probable que un caballito de mar sobreviva a las heridas de la pesca, cambios de profundidad, escape a depredadores, encuentre a su pareja y un hábitat adecuado) • Considerar información disponible sobre pesca IUU y descartes (si no se cuenta con datos específicos para caballitos de mar, pueden utilizarse los de las pesquerías donde se sabe son capturados; p.e. camarón)	○ *Making NDF for Seahorses* (Foster y Vincent, 2016) ○ *Guide to monitoring seahorse fisheries* (Meeuwig y Samoilys, 2003) ○ *Landings trend toolkit* (Foster *et al*., 2004) ○ Perfil de país de la FAO / México (http://www.fao.org/countryprofiles/es/) ○ *Sources of information supporting estimates of IUU* (Pramod *et al*., 2008) ○ *Proyecto Hippocampus 2018-2019* (*valores de referencia e información sobre pesca incidental, IUU y descartes*) ○ Notificación a las Partes 2005/014 sobre comercio de caballitos de mar (https://www.cites.org/sites/default/files/eng/notif/2005/014.pdf)

		d) Tasa de aprovechamiento solicitada/autorizada: • Reflexionar sobre la tasa de aprovechamiento solicitada/autorizada con respecto a las verificaciones y re-cálculos realizados, así como en relación a los valores de referencia disponibles, la estructura poblacional y, en su caso, las tendencias observadas (tasa/historial de aprovechamiento vs estado de las poblaciones) • Considerar la información disponible sobre pesca incidental, pesca IUU y descartes • Foster y Vincent (2016) recomiendan calcular una cuota precautoria de captura a partir de: abundancia*biomasa-1*F, donde F≤0.5*M y M=mortalidad natural. La Dra. Sarah Foster (*Project Seahorse*; com. pers., 2019 para Proyecto *Hippocampus*) sugiere como alternativa para establecer una cuota precautoria inicial que sólo se autorice el aprovechamiento de ejemplares silvestres mayores a 10 cm (en el caso de *H. ingens* y *H. erectus*, que son los que más se comercializan en México) y conforme se obtengan datos poblacionales puede revisarse dicha cuota. • El PMT recomienda que la mortalidad durante la captura, empaque y transportación no debe ser mayor al 5% • Los indicadores de impacto negativo del comercio (nacional e internacional) implican: ○ Disminuciones en: - Oferta - Abundancia relativa (comercio por unidad de esfuerzo; TPUE) - Tamaño promedio de los individuos - Frecuencia de machos embarazados ○ Cambio en la proporción de sexos ○ Incrementos en: - Demanda - Precio	○ PMT de peces marinos de ornato (SEMARNAT, 2012) ○ *Making NDF for Seahorses* (Foster y Vincent, 2016) ○ *Guide to monitoring seahorse fisheries* (Meeuwig y Samoilys, 2003) ○ *Landings trends toolkit* (*Foster et al., 2004*) ○ Perfil de país de la FAO / México (http://www.fao.org/countryprofiles/es/) ○ *Sources of information supporting estimates of IUU* (*Pramod et al., 2008*) ○ Proyecto *Hippocampus* 2018-2019 (valores de referencia e información sobre pesca incidental, IUU y descartes) ○ Modelo multivariado para predecir parámetros biológicos y demográficos (Thorson et al., 2017)
		e) Correspondencia de cantidades entre aprovechamiento y exportación: • Corroborar que la exportación esté respaldada con una autorización de aprovechamiento • Revisar NDF previos para contrastar el número de ejemplares exportados hasta	

		el momento con respecto a la tasa de aprovechamiento autorizada	
	Manejo de la especie y su hábitat	a) Especie: • Revisar el PM e informe(s) anual(es) para determinar si el manejo de la especie es adecuado conforme a los objetivos del PF • Es importante evaluar si las medidas de manejo 1) son apropiadas para las presiones que enfrentan los caballitos de mar, 2) se están implementando y 3) son efectivas. • Algunas técnicas de manejo para caballitos de mar incluyen: limitar el número de pescadores, barcos o artes de pesca; áreas marinas protegidas; restricciones espacio-temporales de artes de pesca; cuotas de captura/exportación; tamaños mínimos y máximos de captura; evitar captura de machos embarazados; reintroducción (lineamientos de IUCN/RSG disponibles); restauración del hábitat; entre otras (ver detalles en Foster y Vincent, 2016 que pueden orientar la emisión de recomendaciones de manejo por parte de la AC CITES)	○ Making NDF for Seahorses (Foster y Vincent, 2016) ○ Existen varios sitios con datos de monitoreo para México sobre: - Arrecifes y blanqueamiento de corales (la mayoría en QROO, algunas en VER, COL y GRO): Coral Watch (https://coralwatch.org/), Reef Check (http://www.reefcheck.org/), CHAMP/NOAA (https://www.coral.noaa.gov), ICRI/GCRMN (https://www.icriforum.org/), CONANP-SIMEC (https://simec.conanp.gob.mx/monitoreo.php) - Pastos marinos (en BC, YUC, CAMP): SeagrassNet/GSMN (http://www.seagrassnet.org/) - Manglares (nacional): SMMM/CONABIO (https://www.biodiversidad.gob.mx/ecosistemas/manglare
		b) Hábitat/otras especies: • Revisar el PM e informe(s) anual(es) para determinar si el manejo del hábitat/otras especies es adecuado conforme a los objetivos del PF o emitir recomendaciones al respecto (p.e. métodos de monitoreo del hábitat y estimaciones sobre su estado) • El PMT propone métodos para el monitoreo de 3 aspectos del hábitat: sustrato, cobertura y rugosidad. • *Project Seahorse* (*Curtis et al., 2004*) señala que es importante conocer las preferencias de la especie (p.e. generalista vs especialista) en cuanto a la profundidad y tipos de hábitat que ocupa para poder evaluar las presiones que enfrenta (p.e. estado de conservación del hábitat en cuanto a pérdida/fragmentación/degradación y cambios en los factores abióticos como temperatura, pH, salinidad y calidad del agua). Por tanto, los parámetros esenciales para la evaluación del hábitat son el porcentaje de cobertura por tipo de hábitat y la visibilidad horizontal, mientras que el microhábitat, salinidad,	

		temperatura, marea, condiciones de viento, condiciones de la superficie marina y cobertura de nubosidad son opcionales. • Los impactos pueden provenir de presiones en mar, tierra y por el cambio climático, y los parámetros que pueden indicar impactos negativos en el hábitat de los caballitos de mar son: ○ Disminuciones en: - Diversidad de hábitat de los que dependen (tipos de hábitat o especies dentro del hábitat, como pastos marinos, manglar o coral) - Distribución de hábitats (área cubierta por tipo de hábitat en la línea costera) - Porcentaje de cobertura viva en un tipo de hábitat (p.e. coral, pasto marino) - Complejidad estructural (p.e. rugosidad del arrecife, altura de los pastos marinos) - Oxígeno - pH - Salinidad ○ Incrementos en: - Fragmentación del hábitat - Indicadores de calidad del agua (turbidez/sedimentación, niveles de nutrientes, contaminación química) - Temperatura - Salinidad - Contaminación por ruido	s2013/smmm.html),

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NOTIFICATION 2020/015
Demande d'informations relatives aux mesures de gestion nationale réglementant les hippocampes (*Hippocampus spp.*), leur mise en œuvre et application

Conformément à cette notification, voici les éléments concernant la gestion de Hippocampes (*Hippocampus spp*.) à Monaco.

1. PROTECTION

Le Code de la mer prévoit des mesures générales de protection de la faune et de la flore marines visant à leur conservation et leur développement naturels et, à ces fins, visant à les préserver de tous troubles. Ces mesures s'appliquent à l'ensemble des rivages, des eaux intérieures et des eaux territoriales (art. L.230-1).

Des mesures particulières sont prévues pour les espèces inscrites à l'annexe II du Protocole de Barcelone du 10 juin 1995 relatif aux aires spécialement protégées et à la diversité biologique (art. O. 230-1) dont les Hippocampes et qui disposent que sont interdites pour ces espèces ainsi que de leurs œufs, parties ou produits :

- la perturbation intentionnelle,
- la capture,
- l'importation,
- la détention,
- la mise à mort,
- le commerce,
- le transport et
- l'exposition à des fins commerciales.

Ces mesures sont complétées par des dispositions relatives à la pêche qui confirment l'interdiction de vendre, de transporter, de colporter ou de faire quelque usage que ce soit du produit des pêches prohibées (art. L.244-5) ainsi que l'interdiction de prélever toutes les espèces protégées telles qu'elles figurent dans les accords internationaux auxquels Monaco est Partie (art. O.244-23).

En cas de capture accidentelle d'un spécimen d'une espèce répertoriée au titre des espèces animales inscrites à l'annexe II du Protocole de Barcelone du 10 juin 1995 relatif aux aires spécialement protégées et à la diversité biologique, le spécimen doit (art. O.230-1) :

- être immédiatement relâché dans des conditions propres à assurer sa survie ;
- à défaut, être déclaré et remis à la Direction de l'Environnement dans les plus brefs délais.

Par ailleurs, il existe dans les eaux territoriales monégasques deux aires marines protégées : la zone protégée du Larvotto et la zone protégée du Tombant des Spélugues.

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2. DEROGATIONS

Le Code de la mer prévoit également des dispositions dérogatoires (art. O.230-1).

Cela concerne en tout premier lieu les fonctionnaires et agents de la Direction des Affaires Maritimes, de la Direction de l'Environnement, de la Sûreté Publique et du Corps des Sapeurs-pompiers agissant dans l'exercice de leurs missions.

Les dérogations concernent ensuite les activités de recherche scientifique comportant la capture, la pêche ou le prélèvement d'espèces protégées au titre de leur inscription à l'annexe II du Protocole de Barcelone du 10 juin 1995 relatif aux aires spécialement protégées et à la diversité biologique. Ces recherches doivent être autorisées par le Ministre d'État, conformément à l'article L. 241-1 du Code de la mer.

Sont enfin également prévues des dérogations aux interdictions, à condition qu'elles ne nuisent pas au maintien, dans un état de conservation favorable, des populations des espèces concernées dans leur aire de répartition naturelle, accordées par le Ministre d'État, après avis de la Direction des Affaires Maritimes et de la Direction de l'Environnement, pour les cas suivants :

a) dans l'intérêt de la protection de la faune et de la flore sauvages et de la conservation des habitats naturels ;
b) dans l'intérêt de la santé et de la sécurité publiques ou pour d'autres raisons impératives d'intérêt public majeur, y compris de nature sociale ou économique, et pour des motifs qui comporteraient des conséquences bénéfiques primordiales pour l'environnement ;
c) à des fins de recherche scientifique et d'éducation, de repeuplement et de réintroduction de ces espèces et pour des opérations de reproduction nécessaires à ces fins, y compris la propagation artificielle des plantes ;
d) pour permettre, dans des conditions strictement contrôlées, d'une manière sélective et dans une mesure limitée, la prise ou la détention d'un nombre limité et spécifié de certains spécimens ;
e) à des établissements, pour la détention ou l'élevage hors du milieu naturel de spécimens d'espèces à des fins de conservation et de reproduction.

3. SANCTIONS

Le non-respect de ces dispositions est sanctionné conformément à l'article L.230-3 du Code de la mer selon les modalités suivantes : emprisonnement de six jours à un mois et amende prévue au chiffre 1 de l'article 26 du Code pénal, ou de l'une de ces deux peines seulement.

En cas de récidive, l'emprisonnement est de un mois à six mois et l'amende est celle prévue au chiffre 2 de l'article 26 du Code pénal.

Les infractions ou tentatives d'infractions commises dans une aire marine protégée destinée à favoriser le repeuplement, la conservation et le développement de la faune et de la flore marines, sont punies d'un emprisonnement de trois mois à un an et de l'amende prévue au chiffre 3 de l'article 26 du Code pénal. Les infractions ou tentatives d'infractions, commises entre le coucher et le lever du soleil sont punies d'un emprisonnement de six mois à trois ans et de l'amende prévue au chiffre 4 de ce même article 26.

Les navires, embarcations ou matériels ayant servi à commettre l'une des infractions prévues au présent article peuvent être saisis. À cette saisie peut être substituée la consignation d'une somme d'argent d'un montant égal au double du taux maximal de l'amende encourue.

En cas de condamnation le tribunal peut prononcer soit la confiscation des navires, embarcations ou matériels et ordonner leur vente ou leur destruction, soit la confiscation de la somme consignée.

Au titre des dispositions relatives à la pêche, les sanctions sont fixées par l'article L.244-7 qui prévoit :

Sans préjudice de l'application des dispositions de l'article L. 230-3, les infractions aux autres dispositions du présent chapitre ainsi qu'à celles des ordonnances souveraines et des arrêtés ministériels pris pour son application, sont punies de l'amende prévue au chiffre 4 de l'article 29 du Code pénal.
En cas de récidive, dans le délai d'une année, l'emprisonnement est de six jours à un mois et l'amende est celle du chiffre 1 de l'article 26 du Code pénal.

Pour information :

Article 26 du Code pénal :
Le montant de la peine d'amende est fixé pour chaque délit suivant les catégories ci-après :

- chiffre 1 : de 1 000 à 2 250 euros ;
- chiffre 2 : de 2 250 à 9 000 euros ;
- chiffre 3 : de 9 000 à 18 000 euros ;
- chiffre 4 : de 18 000 à 90 000 euros.

Article 29 du Code pénal :
Le montant de la peine d'amende est fixé pour chaque classe de contraventions suivant les catégories ci-après :

- chiffre 1 : de 15 à 75 euros ;
- chiffre 2 : de 75 à 200 euros ;

- chiffre 3 : de 200 à 600 euros ;
- chiffre 4 : de 600 à 1 000 euros.

INFORME PERU

NOTIFICACION N° 2020/015

Solicitud de información sobre las medidas nacionales de gestión de caballitos de mar (*Hippocampus* spp) y la aplicación y observancia de estas medidas

En respuesta a la Notificación N° 2020/015, el Ministerio de la Producción (PRODUCE) viene implementando medidas nacionales de gestión para regular y restringir el comercio internacional de caballito de mar, en cumplimiento de sus funciones como Autoridad Administrativa CITES-Perú para especies hidrobiológicas, las cuales se detallan a continuación:

1. La Ley General de Pesca (Ley N° 25977), establece que el Ministerio de Pesquería, actualmente Ministerio de la Producción, determinará, sobre la base de evidencias científicas disponibles y de factores socioeconómicos por el tipo de pesquería, las normas que garanticen la preservación y explotación racional de los recursos hidrobiológicos.

   Las especies de caballito de mar o hipocampos (*Hippocampus* spp) se encuentran incluidas en el Apéndice II, por lo que la comercialización internacional de estos recursos ícticos debe ser controlada con el fin de evitar una utilización incompatible con su supervivencia. En este sentido, el Perú ha implementado medidas nacionales alineadas a las disposiciones normativas de la Convención, según el siguiente detalle:

   - En el año 2004, el Instituto del Mar del Perú (IMARPE), remitió al PRODUCE el informe "Opinión sobre categorización de recursos hidrobiológicos como especies amenazadas de la fauna silvestre", en el cual manifiesta que la situación poblacional del caballito de mar ***Hippocampus ingens*** es aún incierta y hay razones suficientes para presumir que su estado actual puede ser crítico, habiendo sido registrada como una especie poco abundante en estudios de biodiversidad ejecutados a lo largo del litoral peruano. En este contexto, el referido informe concuerda en considerar a esta especie en la categoría "En Peligro". Asimismo, de acuerdo a la información existente, el caballito de mar es un recurso muy vulnerable a la captura, debido a su condición de especie sedentaria, de natación lenta y por sus características biológicas intrínsecas (baja densidad poblacional y limitada tasa de supervivencia durante sus estadíos primarios de desarrollo), lo cual ocasiona, en muchos casos, su desaparición de áreas en las que es sometido a explotación.

   - En ese sentido, en el mes de agosto del año 2004 el PRODUCE aprobó la Resolución Ministerial N° 306-2004-PRODUCE, la misma que determina prohibir la extracción del recurso caballito de mar o hipocampo (*Hippocampus ingens*) en aguas marinas de la jurisdicción peruana, hasta que los estudios correspondientes determinen que el recurso puede ser explotado sin poner en riesgo su supervivencia, precisando que, las personas naturales y jurídicas que extraigan, desembarquen y/o transporten, retengan, transformen, comercialicen o utilicen el recurso caballito de mar durante el período de veda en el ámbito nacional, serán sancionadas conforme a lo dispuesto por Ley General de Pesca[1] y su Reglamento[2], así como por el Reglamento de Inspecciones

[1] Aprobado mediante Decreto Ley N° 25977.
[2] Aprobado mediante Decreto Supremo N° 012-2001-PE.

y del Procedimiento Sancionador de las Infracciones en las Actividades Pesqueras y Acuícolas[3].

- Debido a esta veda, el Ministerio del Ambiente como Autoridad Científica CITES Perú, no emite Dictámenes de Extracción No Perjudicial.

- Sin embargo, a pesar de lo dispuesto por la normativa sectorial aprobada, se siguen registrando actividades de extracción de caballito de mar, principalmente por la pesca incidental de pescadores artesanales, siendo los Gobiernos Regionales los encargados de velar por el cumplimiento de la veda según nuestra legislación nacional, contando con el apoyo de PRODUCE, en el ámbito de las competencias compartidas en materia de pesca artesanal.

- Por otro lado, la Superintendencia Nacional de Aduanas y de Administración Tributaria (SUNAT), en coordinación con otras autoridades competentes, ha estado realizando decomisos de caballito de mar de manera permanente; es así que, que en el 2019, el PRODUCE, la Policía Nacional del Perú y la Dirección de Capitanías y Guardacostas del Ministerio de Defensa confiscaron, en un solo operativo, 12 millones de especímenes de caballito de mar deshidratado, cuyo destino previsto eran los mercados de Asia. Esta acción no ha sido aislada, dado que los decomisos han venido ejecutando desde la instauración de la veda de esta especie.

- En este contexto, el PRODUCE desarrolla acciones de capacitación a diversos actores de la cadena productiva (pescadores, comerciantes, transportistas, entre otros), sobre aquellas especies declaradas en veda, protegidas, tallas mínimas entre otros; con la finalidad de generar un cambio de conducta en los actores y contribuir en la sostenibilidad del aprovechamiento de los recursos hidrobiológicos y canalizar denuncias de pesca ilegal. Además, se cuenta con la plataforma web "Pesca y Consumo Responsable" (https://pescayconsumoresponsable.produce.gob.pe/especies-protegidas.html), que presenta información relevante sobre las especies protegidas y las medidas de manejo de las principales especies de interés comercial incluido el caballito de mar.

- Asimismo, el MINAM como Autoridad Científica CITES, realiza acciones de sensibilización para los pescadores, Gobiernos Regionales y entidades de observancia, produciendo materiales como el que pueden observar a través del siguiente link: http://www.minam.gob.pe/diversidadbiologica/wp-content/uploads/sites/21/2014/02/Afiche-de-Caballito-de-mar.compressed.pdf

Necesidades de cooperación: A fin de implementar otras medidas de manejo, resulta importante contar con los recursos necesarios para realizar un estudio sobre la situación actual de las poblaciones de caballito de mar en el Perú, así como con herramientas que permitan que podamos fortalecer las capacidades de identificación y el control de esta especie.

[3] Aprobado mediante Decreto Supremo N° 016-2007-PRODUCE y Decreto Supremo N° 005-2008-PRODUCE.

Dejana Radisavljevic

From: UNOG-UNEP-CITES Info
Sent: Wednesday, 22 April, 2020 15:31
To: Karen Gaynor
Cc: Thomas De Meulenaer; Dejana Radisavljevic
Subject: FW: Response to the Notification to the Parties No. 2020/015

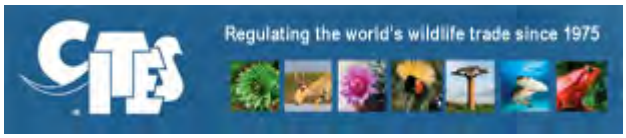
Dear colleagues,

Please be informed of the following.

Kind regards
Pascal

Pascal Perraud (Mr)
Governing Bodies and Meeting Services
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
Direct : +41 (22) 917 84 50 / Fax : +41 (22) 797 34 17
Email : pascal.perraud@cites.org
Web : https://www.cites.org

Postal address:	**Street address:**
CITES Secretariat Palais des Nations Avenue de la Paix 8-14, 1211 Genève 10, Switzerland	Maison Internationale de l'Environnement 15 Chemin des Anémones 1219 Châtelaine-Genève, Switzerland



From: dof thailand <citesdof@yahoo.com>
Sent: Wednesday, 22 April, 2020 2:37 PM
To: UNOG-UNEP-CITES Info <cites.info-cites@un.org>; Daniel Kachelriess <daniel.kachelriess@cites.org>
Subject: Response to the Notification to the Parties No. 2020/015

Dear CITES Secretariat,

According the Notification to the parties No. 2020/015, Request for information on national management measures for seahorses (Hippocampus spp.) and their implementation and enforcement. The Department of Fisheries (DoF), Ministry of Agriculture and Cooperatives as CITES Management Authority for aquatic fauna of Thailand would like to inform you that Thailand has established the Notification of the Department of Fisheries that suspended the exportation *Hippocampus* spp. since the 1st January 2016. However, this Notification remains in place of trade suspension for export wild specimens of seahorses. Therefore, any further change in the suspension of trade of these species, Thailand will submit the documents to the CITES Secretariat. Additionally, it had a National Workshop on CITES Listed Non-Detriment Findings Document on 18-19 July 2019, SEAFDEC Training Department, Samut Prakan, Thailand. The main objective of the workshop is to provide knowledge on the process for development of NDF guidance documents for marine species. The workshop included the issues of NDFs guidance documents for marine species and experiences and lessons learnt in developing CITES listed NDF documents for marine species i.e. sharks and seahorse.

Yours sincerely,

CITES Management Authority of Thailand.
Fisheries Resources Management and Measures Division

Department of Fisheries.
Phaholyothin Rd., Chatuchak, Bangkok 10900 THAILAND.

Tel. 662 579 9767

Fax 662 561 4689

Dear Sir, Madam,

Thank you for your notification 2020/015, requesting information on national management measures for seahorses, and their implementation and enforcement.
We are pleased to submit the United Kingdom's response below.

United Kingdom Response to Notification No. 2020/015.

18.230 Directed to Parties

To support the effective implementation of Appendix II of CITES for seahorses, Parties are invited to:
a) inform the Secretariat of any national management measures that regulate or restrict international trade in seahorses; and how they are implementing and enforcing such measures for seahorses;
b) share copies of their non-detriment findings with the Secretariat for posting on the CITES website to assist other CITES Parties

UK Response

18.230a).
The U.K. is to be considered as an EU Member State until the end of 2020 and as such will implement the EU Wildlife Trade Regulations, after which these Regulations will be brought into UK law as retained EU law. This means that no immediate substantive changes are currently anticipated in the country's regulation of these species.

The trade in seahorses, listed in CITES Appendix II (EU Annex B) is governed by both EU and UK regulations.

EU Wildlife Trade Regulations:

- *Council Regulation (EC) No 338/97 of 9 December 1996 on the protection of species of wild fauna and flora by regulating trade therein.*
    - Art.4(2) – The introduction of a specimen on Annex B into the EU community requires the completion of necessary checks and the presentation of an import permit. The permit is only issued if the Scientific Authority considers the introduction of the specimen would not have a "harmful effect" on the species' conservation, and if the permit applicant provides documented evidence that the place of destination has adequately equipped accommodation for the conservation and care of the specimen.
    - Art.4(6) – The European Commission may establish general restrictions, or restrictions relating to certain countries of origin, on the introduction of live Annex B-species specimens in the community, should the introduction present an ecological threat to indigenous fauna, or should the specimens incur a high mortality rate during shipment or captivity.
    - Art.5(4) – The export or re-export of specimens from the EU Community is subject to control measures similar to those of imports: necessary checks must be completed, and an export permit issued by the relevant authorities.
    - Art.7 – This article sets out general derogations, such as for specimens transiting through the EU or those that are captive bred.
    - Art.14 – Monitoring and compliance with the provisions of EC Reg. No 338/97 is the responsibility of the competent authorities of the Member State. Authorities are to take appropriate steps to insure compliance, and take legal action if required. They

must also report significant infringement to the Regulations -including seizures, confiscations- to the EU Commission and the CITES Secretariat.

- Art.16 – Member states are required to take sanctions appropriate to the nature and gravity of the regulation infringement. Sanctions should apply to a non-exhaustive list of infringements, which include, for example:
  - introduction into, or export or re-export from, the Community of specimens without the appropriate permit or certificate or with a false, falsified or invalid permit or certificate or one altered without authorization by the issuing authority;
  - failure to comply with the stipulations specified on a permit or certificate issued in accordance with this Regulation;
  - making a false declaration or knowingly providing false information in order to obtain a permit or certificate;
  - using a false, falsified or invalid permit or certificate or one altered without authorization as a basis for obtaining a Community permit or certificate or for any other official purpose in connection with this Regulation;
  - making no import notification or a false import notification;
  - shipment of live specimens not properly prepared so as to minimize the risk of injury, damage to health or cruel treatment…

- *Commission Regulation (EC) No 865/2006 of 4 May 2006 laying down detailed rules concerning the implementation of Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein*
  - Specifies implementation provisions for Reg. 338/97, including content of permits, nomenclature, document validity, customs procedure, personal ownership certificates etc.

- *Commission Regulation (EU) 2019/220 of 6 February 2019 amending Regulation (EC) No 865/2006 laying down detailed rules concerning the implementation of Council Regulation (EC) No 338/97 on the protection of species of wild fauna and flora by regulating trade therein*
  - Includes the new codes, adopted at CITES 67th Standing Committee, to be included in the description of specimens and units of measure on permits and certificates.

Domestic legislation:

The U.K.'s two native species of seahorses, *H. hippocampus* and *H. guttulatus,* are listed under schedule 5 ("Animals Which Are Protected") of the *Wildlife and Countryside Act* (1981).

- Art. 9 (1): Sets that if a person intentionally kills, injures or takes any wild animal included in Schedule 5, he/she shall be guilty of an offence.
- Art.9 (2): Sets that if a person has in his possession or control any live or dead wild animal included in Schedule 5 or any part of, or anything derived from, such an animal, he/she shall be guilty of an offence.
- Art. 9(4): A person will be guilty of an offence if he/she intentionally or recklessly damages or destroys any structure or place which any wild animal specified in Schedule 5 uses for shelter or protection; he/she disturbs any such animal while it is occupying a structure or place which it uses for shelter or protection; or he/she obstructs access to any structure or place which any such animal uses for shelter or protection.

COTES 2018 sets out further provisions for CITES-related offences, in particular sanctions for breaches. Schedule 1 provides for criminal offences and penalties and Schedule 2 provides for civil sanctions. Article 9 also confers the power of specimen seizures to constables.

The implementation and enforcement of these measures are carried out by:

- The Joint Nature Conservation Committee, acting Scientific Authority for Fauna.
- The Animal and Plant Health Agency (APHA), competent to grant permits.
- The APHA, Border Force, National Wildlife Crime Unit, acting as enforcement authorities.

Contact information for these institutions can be found on the UK CITES page.

18.230b).

Native species

Only two species of hippocampus are native to the U.K., *H. hippocampus* and *H. guttulatus,* both listed under schedule 5 of the Wildlife and Countryside Act (1981). This effectively bans the taking and killing of hippocampi in the U.K., as well as bans the damage or destruction of shelter places, and disturbance to the species. There is therefore very limited trade, with only exports of captive-bred specimens reported. Consequently, the U.K. does not have documented Non-Detriment Findings. However, we submit some information regarding the biology, conservation, legal status, threats and reported trade for your review, as an attached supplemental document.

Please note that while *Hippocampus erectus* and *Hippocampus reidi* are native to several U.K. Overseas Territories, the CITES database does not indicate a significant trade therefrom or therein, as is shown in the CITES database (table below).

UK imports of non-native hippocampus spp.

Fig 1. Seahorse imports to the UK 2017-2019 (Source: UK CITES Licensing database, Unicorn 2020)

Species	Appendix / Annex	IUCN Red List	Origin	Source	Derivative	Quantity (*n*)
Hippocampus reidi	II/B	NT (2017)	Sri Lanka	Captive bred	Live	8750
Hippocampus comes	II/B	Vu (2015)	Sri Lanka	Captive bred	Live	3600
H. semispinosus	II/B	Vu(2017)*	New Caledonia	Captive bred	Live	680
Hippocampus reidi	II/B	NT (2017)	Brazil	Wild	Live	250
Hippocampus kuda	II/B	Vu (2014)	Taiwan	Captive bred	Live	250
Hippocampus zosterae	II/B	LC (2017)	USA	Wild	Live	115
Hippocampus erectus	II/B	Vu (2017)	USA	Wild	Live	12

*as H. *spinosissimus*

As can be seen from the figure 1, the UK has imported live seahorses for the aquarium trade, sourced from a variety of countries, with the majority coming from Sri Lanka and being captive-bred.

Scientific Authority's role in regulating trade in seahorses & compliance with Article IV of the Convention

Stricter measures implemented by the EU go beyond CITES requirements for just an export permit

issued by the country of origin for App. II species, by requiring an import permit and corresponding non-detriment finding on all imports of App II species. An import permit to allow trade is only issued after the UK Scientific Authority has determined, after examining available data and considering any evidence, that the introduction (source W and F) would not have a harmful effect on the conservation status of the species or on the extent of the territory occupied by the relevant population of the species, taking account of current or expected levels of trade. Furthermore, where the specimens concerned are claimed to be captive-bred (source C), the permits would only be issued when the SA has advised the MA that the specimens have been born and bred in captivity in accordance with the criteria in Res Conf 10.16.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
International Affairs
5275 Leesburg Pike, MS: IA
Falls Church, VA 22041-3803

4/17/2020

Ms. Ivonne Higuero
Secretary-General
CITES Secretariat
International Environment House
11 Chemin des Anémones
CH-1219 Châtelaine-Geneve
Switzerland

Via email: info@cites.org, karen.gaynor@cites.org

Dear Secretary-General Higuero:

This letter provides the U.S. response to Notification to the Parties No. 2020/015, which requests any new information on national management measures for seahorses (*Hippocampus spp*.) and their implementation and enforcement per CITES Decision 18.230. If you have any questions concerning the information we have provided, please feel free to contact me at rosemarie_gnam@fws.gov.

Sincerely,

Rosemarie Gnam, Ph.D
Chief, Division of Scientific Authority

Enclosure

CC: NMFS
FWS OLE

U.S. Response to Notification to the Parties No. 2020/015. Request for information on national management measures for seahorses (*Hippocampus spp*.) and their implementation and enforcement

At its 18th meeting (CoP18, Geneva, 2019), the Conference of the Parties adopted Decisions 18.228 to 18.233 on Seahorses (*Hippocampus spp*.). Decision 18.230 reads as follows:

18.230 Directed to Parties

To support the effective implementation of Appendix II of CITES for seahorses, Parties are invited to:

> *a) inform the Secretariat of any national management measures that regulate or restrict international trade in seahorses; and how they are implementing and enforcing such measures for seahorses;*
>
> *b) share copies of their non-detriment findings with the Secretariat for posting on the CITES website to assist other CITES Parties; and*
>
> *c) inform seahorse traders within their jurisdiction of any quotas, including any zero quotas, and any trade suspensions for seahorses to further facilitate compliance and enforcement by all participants in the trade.*

The United States is pleased to be able to provide the following information in response to Notification to the Parties No. 2020/015.

a) **Management and Conservation Measures for Seahorses in the United States**

In the United States, we do not have national management measures for seahorses as they are not currently listed on the U.S. Endangered Species Act. Rather, our State wildlife and fishery agencies regulate and manage these species, including harvest, in their own State waters. In our response, we are providing detailed conservation and management information as submitted by the State of Florida where we have had exports of live seahorses. *Please see Attachment 1*. The U.S. Management Authority makes the legal acquisition finding and issues the CITES permit needed for these exports while the U.S. Scientific Authority makes the non-detriment findings for these permits. We have also included a table summarizing responses from States regarding their regulations for and harvests of seahorses. *Please see Attachment 2*.

b) **Non-Detriment Findings for *Hippocampus spp*.**

We have attached copies of the two most recent non-detriment findings prepared for seahorses. *Please see Attachments 3 and 4.* In addition, we are providing our CITES implementing regulations for making a non-detriment finding, as stated in 50 Code of Federal Regulations Part 23. See below.

§23.61 What factors are considered in making a non-detriment finding?

(a) *Purpose.* Articles III and IV of the Treaty require that, before we issue a CITES document, we find that a proposed export or introduction from the sea of Appendix-I or -II specimens is not detrimental to the survival of the species and that a proposed import of an Appendix-I specimen is for purposes that would not be detrimental to the survival of the species.

(b) *Types of detriment.* Detrimental activities, depending on the species, could include, among other things, unsustainable use and any activities that would pose a net harm to the status of the species in the wild. For Appendix-I species, it also includes use or removal from the wild that results in habitat loss or destruction, interference with recovery efforts for a species, or stimulation of further trade.

(c) *General factors.* The applicant must provide sufficient information for us to make a finding of non-detriment. In addition to factors in paragraphs (d) and (e) of this section, we will consider whether:

(1) Biological and management information demonstrates that the proposed activity represents sustainable use.

(2) The removal of the animal or plant from the wild is part of a biologically based sustainable-use management plan that is designed to eliminate over-utilization of the species.

(3) If no sustainable-use management plan has been established, the removal of the animal or plant from the wild would not contribute to the over-utilization of the species, considering both domestic and international uses.

(4) The proposed activity, including the methods used to acquire the specimen, would pose no net harm to the status of the species in the wild.

(5) The proposed activity would not lead to long-term declines that would place the viability of the affected population in question.

(6) The proposed activity would not lead to significant habitat or range loss or restriction.

(d) *Additional factor for Appendix-II species.* In addition to the general factors in paragraph (c) of this section, we will consider whether the intended export of an Appendix-II species would cause a significant risk that the species would qualify for inclusion in Appendix I.

(e) *Additional factors for Appendix-I species.* In addition to the general factors in paragraph (c) of this section, we will consider whether the proposed activity:

(1) Would not cause an increased risk of extinction for either the species as a whole or the population from which the specimen was obtained.

(2) Would not interfere with the recovery of the species.

(3) Would not stimulate additional trade in the species. If the proposed activity does stimulate trade, we will consider whether the anticipated increase in trade would lead to the decline of the species.

(f) *How we make our findings.* We base the non-detriment finding on the best available biological information. We also consider trade information, including trade demand, and other scientific management information. We make a non-detriment finding in the following way:

(1) We consult with the States, Tribes, other Federal agencies, scientists, other experts, and the range countries of the species.

(2) We consult with the Secretariat and other Parties to monitor the level of trade that is occurring in the species.

(3) Based on the factors in paragraphs (c) through (e) of this section, we evaluate the biological impact of the proposed activity.

(4) In cases where insufficient information is available or the factors above are not satisfactorily addressed, we take precautionary measures and would be unable to make the required finding of non-detriment.

(g) *Risk assessment.* We review the status of the species in the wild and the degree of risk the proposed activity poses to the species to determine the level of scrutiny needed to make a finding. We give greater scrutiny and require more detailed information for activities that pose a greater risk to a species in the wild. We consider the cumulative risks, recognizing that each aspect of international trade has a continuum of risk (from high to low) associated with it as follows:

(1) *Status of the species*: From Appendix I to Appendix II.

(2) *Origin of the specimen*: From wild-collected to born or propagated in a controlled environment to bred in captivity or artificially propagated.

(3) *Source of the propagule used to grow the plant*: From documentation that the plant was grown from a non-exempt seed or seedling to documentation that the plant was grown from an exempt seed or seedling.

(4) *Origin of the species*: From native species to nonnative species.

(5) *Volume of legal trade*: From high to low occurrence of legal trade.

(6) *Volume of illegal trade*: From high to low occurrence of illegal trade.

(7) *Type of trade*: From commercial to noncommercial.

(8) *Genetic status of the specimen*: From a purebred species to a hybrid.

(9) *Risk of disease transmission*: From high to limited risk of disease transmission.

(10) *Basis for listing*: From listed under Article II(1) or II(2)(a) of the Treaty to listed under Article II(2)(b).

(h) *Quotas for Appendix-I species.* When an export quota has been set by the CoP for an Appendix-I species, we will consider the scientific and management basis of the quota together with the best available biological information when we make our non-detriment finding. We will contact the Scientific and Management Authorities of the exporting country for further information if needed.

Florida Fish and Wildlife Conservation Commission

Commissioners
Robert A. Spottswood
Chairman
Key West

Michael W. Sole
Vice Chairman
Tequesta

Rodney Barreto
Coral Gables

Steven Hudson
Fort Lauderdale

Gary Lester
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Managing fish and wildlife resources for their long-term well-being and the benefit of people.

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800-955-8771 (T)
800 955-8770 (V)

MyFWC.com

April 6, 2020

Mr. Buddy Baker
Chief, Wildlife Management
Louisiana Department of Wildlife and Fisheries
bbaker@wlf.la.gov

RE: CITES request for information on national management measures for seahorses (*Hippocampus* spp.) and their implementation and enforcement

Dear Mr. Baker,

The Division of Marine Fisheries Management of the Florida Fish and Wildlife Conservation Commission (FWC) coordinated agency consideration of the request for information regarding the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) national management measures for seahorses (*Hippocampus* spp.) and their implementation and enforcement, and provides the following information specific to seahorses.

To fulfill U.S. obligations as a signatory country to CITES, the USFWS is requesting information on any national management measures that regulate or restrict international trade in seahorses, and how such measures are implemented and enforced; and provide data on harvest, regulation or trade of *Hippocampus* species.

In 2014 and 2015, the FWC provided detailed fishery and biological information regarding the lined seahorse to assist the USFWS in their review of this species for CITES listing. Additionally, in 2016, FWC provided detailed fishery and biological information regarding the dwarf seahorse to assist the National Oceanic and Atmospheric Administration's National Marine Fisheries Service with their review of this species. These documents, along with updated available data, are enclosed (see Enclosures 1-5).

Existing Florida management measures for seahorses are found in FWC rule 68B-42, Florida Administrative Code. This rule is titled "Marine Life" and regulates tropical-ornamental species. This State of Florida rule has also been extended so that it applies in federal waters of the Exclusive Economic Zone (EEZ) adjacent to State of Florida waters pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act, and is additionally adopted by the Florida Keys National Marine Sanctuary for all state and federal waters of the Sanctuary.

Since its inception in 1991, the Marine Life rule has successfully provided appropriate conservation measures for all species managed by this rule, including seahorses. These measures include recreational and commercial bag limits, large areas of quality habitat that are closed to commercial and recreational harvest (i.e., Florida Bay in Everglades National Park, John Pennekamp Coral Reef State Park, Biscayne National Park, and large portions of Dry Tortugas National Park), and the presence of a limited-entry fishery for the commercial harvest of these species. Commercial landings of seahorses have remained relatively constant since the mid-1990s. Additionally, the long-term Florida Fisheries-Independent Monitoring program dataset suggests that abundance of seahorse species remains stable in each of the assessed estuaries (see Enclosure 1).

Florida's successful management of this fishery is due in part to the collaborative relationship FWC has with Marine Life fishery participants. Fishery participants are proactive in relaying resource information and concerns to the FWC for management consideration. The FWC is confident that if there were issues with seahorse distribution or abundance, we would be quickly notified by fishery participants so that corrective management actions can be taken.

FWC does not have data on the number of fishery participants or dealers who may export seahorses.

The FWC looks forward to continuing to work with the U.S. Fish and Wildlife Service on this and other issues. If you have any questions about the information in this letter or Florida's fisheries, please contact me in the Division of Marine Fisheries Management at 850-487-0554, or Jessica.McCawley@myfwc.com.

Sincerely,

Jessica McCawley
Director

Updated Florida Landings: Seahorses

Division of Marine Fisheries Management
Florida Fish and Wildlife Conservation Commission
1875 Orange Avenue East
Tallahassee, FL 32301

Available Data Updated

Florida has programs in place for a wide variety of marine species to monitor both wild populations, through a community level fisheries-independent monitoring program, and harvest rates, through an extensive fisheries-dependent monitoring program. The Florida Fish and Wildlife Conservation Commission's (FWC) Fish and Wildlife Research Institute (FWRI) conducts both monitoring programs and maintains the associated databases. The fisheries-dependent monitoring (FDM) program monitors the commercial and recreational fisheries of Florida and the fisheries-independent monitoring (FIM) program monitors populations of estuarine fishes and selected macroinvertebrates throughout the state.

Fisheries-Dependent Data

An examination of FDM's database was conducted to provide updated data for commercial seahorse harvest from 2010-2019 (2019 data are preliminary; Table 1). The annual reported harvest of seahorses varied throughout the calendar years, likely due to fluctuations in harvester participation and consumer demand.

	Dwarf Seahorse			Lined Seahorse		
Year	**Numbers**	**Trips**	**Value**	**Numbers**	**Trips**	**Value**
2010	14,623	114	28,944	1,147	180	5,900
2011	19,249	138	34,472	2,934	237	14,757
2012	16,208	160	37,764	2,403	247	11,806
2013	25,816	165	43,889	8,772	269	20,883
2014	9,381	171	36,737	3,624	247	17,707
2015	29,173	173	71,295	5,353	463	30,189
2016	23,199	160	65,094	2,046	242	10,665
2017	13,453	131	34,172	2,712	230	14,439
2018	16,056	118	43,710	3,682	248	18,644
2019*	11,264	101	29,893	3,753	210	16,232

Table 1. Commercial Dwarf Seahorse (*Hippocampus zosterae*) and Lined Seahorse (*Hippocampus erectus*) aquarium trade landings in numbers, trips, and estimated total value in US dollars from 2010-2019. Note: 2019* data are preliminary and subject to revision.

Fisheries-Independent Data

The long-term Florida Fisheries-Independent Monitoring (FIM) program dataset was assessed to determine distribution and abundance trends of lined (*Hippocampus erectus*) and dwarf (*Hippocampus zosterae*) seahorses in Florida.

Data from stratified-random sampling (SRS), 1996 – 2018, were used to create indices of abundance (IOAs) from seven estuaries around the state of Florida (northeast Florida, northern Indian River Lagoon, Florida Bay, Charlotte Harbor, Tampa Bay, Cedar Key, and Apalachicola Bay). Estuarine systems included in the analyses for each species were selected based upon adequate sample sizes of the species and years of available data with separate IOAs calculated for each estuary. Although only a four-year time series (2006 – 2009) was available for Florida Bay, this estuary was included for consistency with previous submittals.

In each estuary, 6.1-m otter trawls were deployed in relatively deep water (1.8 - 7.6 m), and 21.3-m seines were deployed in shallower depths (0.3 - 1.5 m). Annual IOAs were computed using generalized linear models (GLIMMIX procedure; SAS Institute Inc. 2006). Location, time, and environmental variables were treated as either classification variables (zone, year, month, gear, deployment technique, shore type, sediment type, and bottom vegetation type) or covariates (water temperature, salinity, and depth) in the models. Significant classification variables and covariates were explored to discern trends.

Indices of abundance were calculated as the median annual number of fish per set based upon the generalized linear model outputs. Median values were determined from the least-squares adjusted means by multiplying the standard error by a random normal deviate ($\mu=0$, $\sigma=1$) and adding it to the least-squares mean. These data were then back-transformed, with the process being repeated 500

times for each year to create a sampling distribution of back-transformed values. Summary statistics (median, 25 and 75 percentiles) were then calculated and plotted to view annual trends in IOAs (Sokal and Rohlf 1981).

Spatial Distribution

Both *Hippocampus* species were collected in six of the Florida estuaries (northern Indian River Lagoon, Florida Bay, Charlotte Harbor, Tampa Bay, Cedar Key, and Apalachicola Bay). Although *H. erectus* was collected from the seventh estuary (northeast Florida), *H. zosterae* was absent from this system. Of the seven estuaries, the highest relative abundance of *H. erectus* occurred in two southern Gulf Coast estuaries (Charlotte Harbor and Tampa Bay), while higher abundances of *H. zosterae* occurred in the three most southern estuaries (Charlotte Harbor, Tampa Bay and Florida Bay). Differences in number collected and frequency of occurrence in each of the gear types suggested that *H. zosterae* was more abundant in shallower water (i.e., seines) and *H. erectus* was more prevalent in deeper waters (i.e., trawls).

Lined seahorse (*Hippocampus erectus*)

More than 190 *H. erectus* were collected in each of the Gulf Coast estuaries (Apalachicola Bay, Cedar Key, Charlotte Harbor, and Tampa Bay) and one Atlantic Coast estuary (northern Indian River Lagoon). Abundance in Florida Bay and northeast Florida were too low and variable to develop annual IOAs for the lined seahorse.

The lined seahorse was collected in both seines and trawls, indicating that they occur in both shallow and deep-water areas of each estuary. The significant habitat variables ($p < 0.05$) in the generalized linear model indicated that lined seahorses were associated with submerged aquatic vegetation, higher salinities, and deeper depths within each estuary.

Long-term trends in annual abundance of *H. erectus* show a generally stable population over the time series available for each estuary (Figure 1). Median abundance at the end of the time series (2018) in each estuary was similar to the long-term estuarine-specific median. Peak abundance occurred during different years in each of the estuaries. In Tampa Bay, peak abundance occurred in 2006 and 2007, whereas Charlotte Harbor IOAs were noticeably higher in 2007, 2016, 2017, and 2018. The annual abundance indices for the northern Indian River Lagoon increased in 2013, possibly associated with a partial recovery of seagrass beds in this system following an extensive seagrass die-off in 2011.

Dwarf seahorse (*Hippocampus zosterae*)

The highest total catches of dwarf seahorses (>500 individuals) occurred in Charlotte Harbor, Tampa Bay and Florida Bay (Figure 2). This cold-intolerant species was most abundant in Florida Bay, where both seine and trawl samples collected relatively high numbers, and least abundant in Cedar Key (n=30), where they were only collected in seines. In the other three estuaries, dwarf seahorses were most commonly collected in seines. Although fewer than 500 animals were collected, IOAs were calculated for the northern Indian River Lagoon and Cedar Key; the indices for Cedar Key are based on an inadequate number of animals and, unless numbers increase in the future, should be omitted from this summary. The number of dwarf seahorses collected was too low and variable for

Apalachicola Bay and none were collected in northeast Florida, so annual abundance indices were not calculated for these two estuarine systems.

The significant variables ($p < 0.05$) in the generalized linear models for *H. zosterae* collected in seines included depth, location in the estuary, time of year, and bottom vegetation for Tampa Bay, Charlotte Harbor, and the northern Indian River Lagoon. In Florida Bay, the significant variables were similar for the seines and the trawls: depth, location in the estuary, year sampled, and bottom vegetation. Salinity was significant for seines, but not trawls, in Florida Bay. In general, these results suggest that *H. zosterae* tend to occur in shallower (<1.5-m) depths that have submerged aquatic vegetation. In each of the analyzed estuaries, abundance of *H. zosterae* tended to be stable over the time series, with peak abundances occurring during different years in each estuary. Except in the northern Indian River Lagoon, annual abundance in 2018 were similar to the long-term estuarine-specific median. In the northern Indian River Lagoon, annual abundance declined in 2011 as this estuary experienced an extensive seagrass die-off. Dwarf seahorse abundance has been slow to recover following this die-off.

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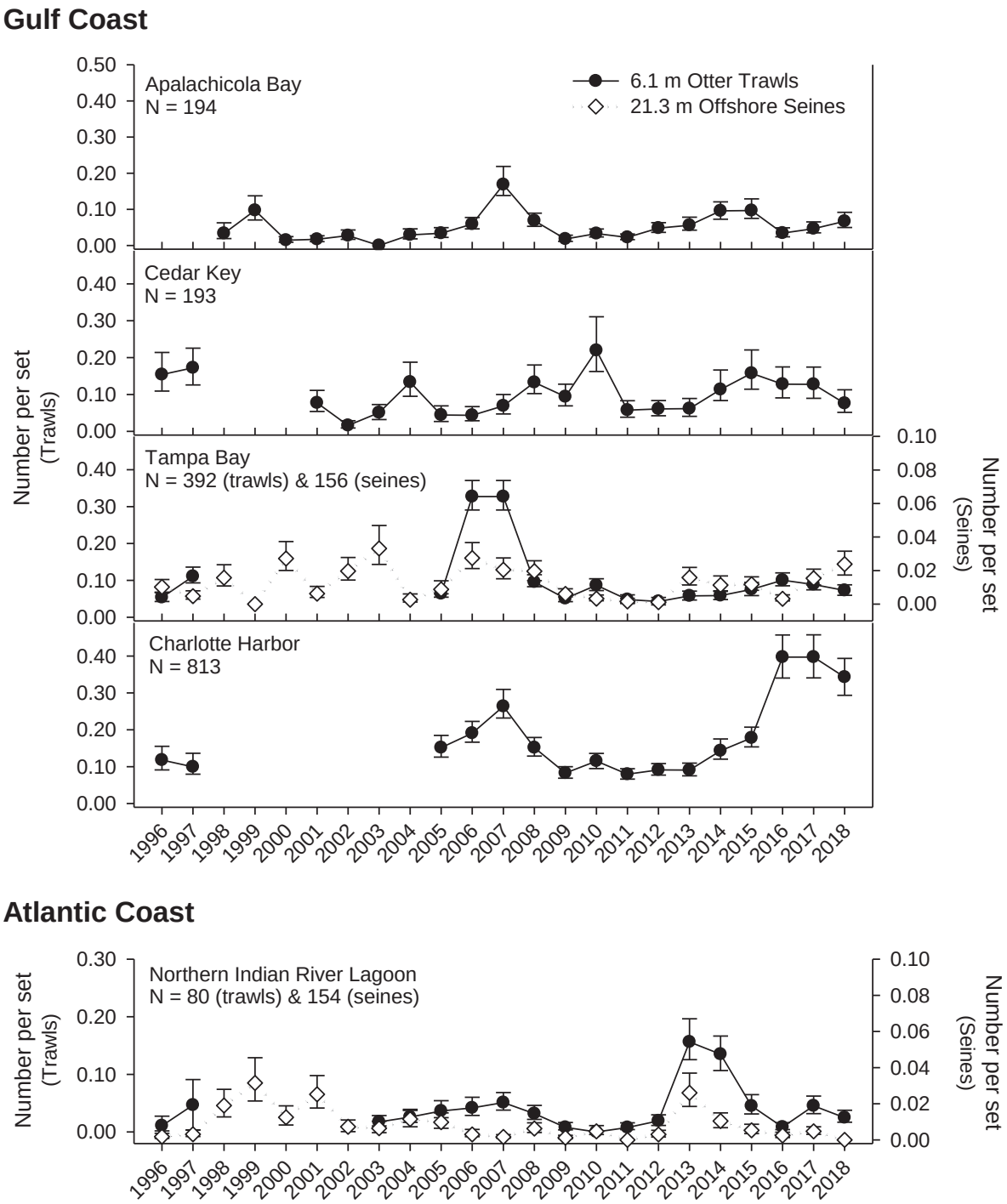

Figure 1. Long-term annual indices of abundance (IOAs) of *Hippocampus erectus* (lined seahorse), 1996 to 2018, in five Florida estuarine systems. Trawls are represented by the filled circles and solid lines while seines are represented by the open diamonds and dotted lines. Points represent the median abundance estimate while the error bars represent the 25th – 75th percentiles. Note the differences in scale among estuaries and between seines and trawls in Tampa Bay and Indian River Lagoon.

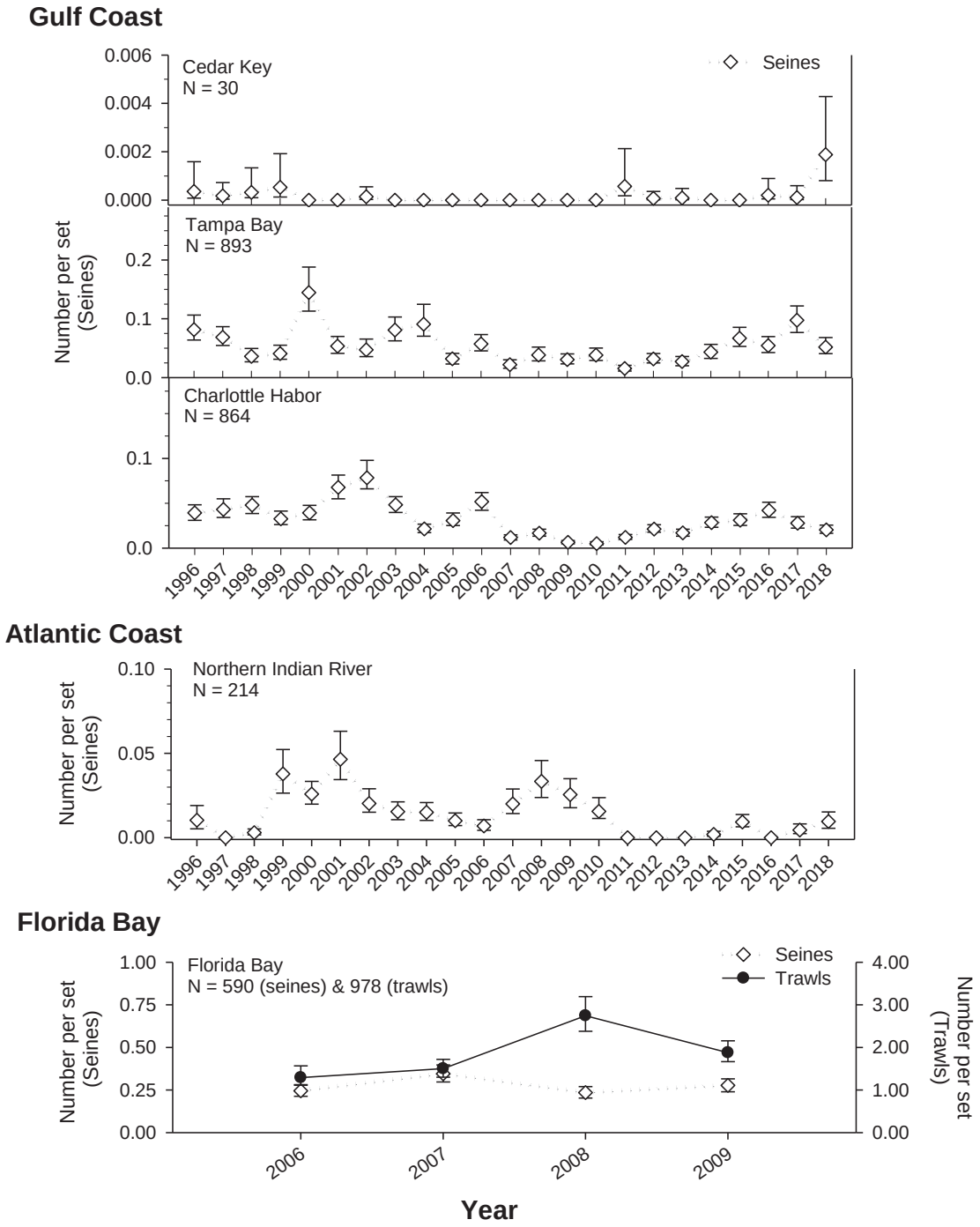

Figure 2. Long-term annual indices of abundance (IOAs) for *Hippocampus zosterae* (dwarf seahorse), 1996 to 2018, in five Florida estuarine systems. Trawls are represented by the filled circles and solid lines while seines are represented by the open diamonds and dotted lines. Points represent the median abundance estimate while the error bars represent the 25th – 75th percentiles. Note the differences in scale among estuaries and between seines and trawls in Florida Bay.

July 3, 2012

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Ms. Calusa Horn
Natural Resource Specialist
National Marine Fisheries Service
Southeast Regional Office
263 13th Avenue South
St. Petersburg, FL 33701

RE: NOAA-NMFS-2012-0101; 90-Day Finding on a Petition to List the Dwarf Seahorse as Threatened or Endangered Under the Endangered Species Act

Dear Ms. Horn:

The Division of Marine Fisheries Management of the Florida Fish and Wildlife Conservation Commission (FWC) has coordinated agency consideration of the ninety-day petition finding, request for information, and initiation of status review for the dwarf seahorse (*Hippocampus zosterae*), and provides the following comments.

Background

The National Marine Fisheries Service (NMFS) is conducting a status review of the dwarf seahorse to determine if listing as threatened or endangered under the Endangered Species Act (ESA) is warranted. NMFS is soliciting information regarding the status of dwarf seahorse to ensure that this status review is based on the best available scientific and commercial information.

Florida's Marine Life Fishery and Dwarf Seahorse Regulations

In Florida, harvest of dwarf seahorse is regulated by the FWC as a Marine Life species in Chapter 68B-42, Florida Administrative Code (Enclosure 1). This rule governs the harvest of species collected for the tropical ornamental industry. FWC regulations for dwarf seahorse also apply in the EEZ adjacent to Florida state waters.

Recreational harvesters are required to have a saltwater fishing license to harvest dwarf seahorses and are limited to five dwarf seahorses per person per day, which is included in the 20-organism per day marine life aggregate bag limit. A two-day possession limit also applies to recreational harvesters.

A valid saltwater products license, with a valid restricted species endorsement, and marine life (ML) endorsement is required to commercially harvest or sell marine life species, including dwarf seahorses. There are three types of marine life endorsements: Marine Life Transferable Dive (MLD), Marine Life Non-Transferrable Dive (MLN), and Marine Life Bycatch (MLB). The commercial marine life fishery is a limited entry fishery; new participants may only enter the fishery by acquiring a transferable ML endorsement (MLD or MLB) from a participant leaving the fishery. In the 2011-2012 license year, there were 179 MLD, 20 MLN, and 39 MLB endorsements. The marine life fishery is also unique in that it is typically order driven.

Commercial harvesters are limited to 400 dwarf seahorses per person or per vessel per day, whichever is less. However, commercial harvesters that take dwarf seahorses as incidental bycatch are limited to the daily recreational bag limit. The petitioner incorrectly stated that there are no limits on the number of seahorses that can be harvested as bycatch and that the landings value of all marine life bycatch must be less than $5,000 annually.

Florida Marine Life regulations also restrict the gears that can be used to harvest dwarf seahorse. Recreational harvesters and commercial MLN endorsement holders are limited to use of hand held nets, barrier nets, dropnets, slurp guns, storage bags, and rods to harvest dwarf seahorses. Only commercial MLD and MLB endorsement holders may use a seahorse trawl for harvest, which is a trawl 1) with an opening no larger than 12 inches by 48 inches, 2) that weighs no more than 5 pounds wet when weighed out of the water, and 3) is towed by a vessel no greater than 15 feet in length at no greater than idle speed. Roller frame trawls may only be used by MLB and MLD endorsement holders that hold a valid live bait shrimping license.

Commercial Dwarf Seahorse Landings

Commercial dwarf seahorse landings in Florida are monitored by the FWC's Fish and Wildlife Research Institute (FWC-FWRI). Statewide landings from 1990-2012 are summarized below.

	SPECIES		
	SEAHORSE, DWARF		
	NUMBERS	TRIPS	VALUE
YEAR			
1990	2,142	58	1,071
1991	7,226	84	5,361
1992	76,706	141	3,846
1993	66,440	118	4,656
1994	98,779	117	86,907
1995	22,662	61	23,023
1996	17,805	53	22,877
1997	87,916	57	27,462
1998	15,564	79	10,260
1999	61,538	81	19,337
2000	15,121	88	26,207
2001	61,559	134	40,137
2002	92,500	103	31,276
2003	38,858	98	27,685
2004	28,780	126	43,613
2005	14,034	97	31,548
2006	23,185	301	41,512
2007	58,911	255	45,216
2008	18,270	142	34,570
2009	70,808	166	35,042
2010	14,623	114	28,944
2011*	19,245	137	34,453
2012*	4,374	43	9,120

* 2011 and 2012 data are preliminary and not yet finalized.

Table 1. Commercial dwarf seahorse landings, trips, and estimated total value in dollars from 1990-2012. Data from 2011 and 2012 (to date) are preliminary.

Current and Historic Distribution and Abundance

Executive Summary

We examined scientific literature, more than 1,000 references and the electronic databases of most major museums in the United States, and the Florida fisheries-independent and fisheries-dependent databases maintained by the FWC in order to determine the recent and historical distributions of

the dwarf seahorse, and to determine trends in the abundance of this species over time.

The overall conclusion from this research is that the range of the dwarf seahorse given in most recent publications includes several areas where they may never have been abundant and where this species may not ever have had self-sustaining populations. Dwarf seahorses are abundant, both recently and historically, only in peninsular Florida and, to a lesser extent, along the Gulf coast of Mexico and parts of the Texas coast. The largest populations are in south Florida, especially Florida Bay.

Fisheries-independent data collected in Florida estuaries support the idea that dwarf seahorses are most abundant in the southern half of the Florida peninsula, especially Florida Bay. We examined historical data from the following estuarine regions of Florida: Fort Walton Beach, Apalachicola Bay, Cedar Key, Tampa Bay, Charlotte Harbor, Florida Bay, northern Indian River Lagoon, and the St. Johns River estuary. These data indicate much greater abundance of this species in Florida Bay, Charlotte Harbor, and Tampa Bay. Abundance is relatively low in Indian River Lagoon, Cedar Key, and Fort Walton Beach, and the species is rare in Apalachicola Bay and absent from the St. Johns River estuary. Data through 2011 for Tampa Bay and Charlotte Harbor indicate variable catch rates from 1996 through 2005 or 2006 but consistently low catch rates from 2007 through 2011. We know of no environmental reason for this decline. Catch rates were never very high in Indian River Lagoon but declined to 0 in 2011, probably in association with a widespread loss of seagrass and drift algae in this area. The dataset for Florida Bay is not as complete, but data from our various sampling efforts in this region indicate very high abundances of dwarf seahorses from 1994 through 2009, when our most recent study in this area ended. The seagrass die-off in Florida Bay in the late 1980s and early 1990s undoubtedly affected dwarf seahorse populations in some parts of the bay, but the overall population is still large.

Fisheries-dependent (harvest) data vary without obvious trend from 1990-2012. Generally tens of thousands are harvested per year, with the highest total being more than 98,000 in 1994. Harvest was low in the last year for which we have complete data, 2010, but the harvest was very high in 2009. These data may or may not have a direct connection with the area of harvest (the numbers are from dealer records), but the majority of fish are always sold in south Florida (Tampa Bay to Miami).

There are several limitations to our analyses, especially the portion based on literature and museum databases. Identification of specimens may be a problem in some cases because young lined seahorses are similar to adult dwarf seahorses. Many historical studies were conducted with sampling gear that is not effective at catching dwarf seahorses; this is especially due to mesh size being too large to catch this species. We attempted to cover the scientific literature that was most likely to contain information on dwarf seahorse populations, but there are still numerous references that we have not been able to examine. Additionally, we know that unpublished state and federal databases exist for some areas within the range of the dwarf seahorse, and some of these might supply important data on distribution and abundance. We believe it is highly unlikely, however, that additional references or databases would significantly alter our conclusions. Peak numbers in museum databases can reflect real abundance in a region or during a time period, but they may also reflect the efforts of one or a few ardent collectors.

Our overall conclusion is that the dwarf seahorse has a limited geographic range and that its abundance has declined somewhat in recent years in some portions of that range. However, populations still appear to be large in the area with the greatest historical abundance, Florida Bay. This species is one of many whose populations would be decimated by a widespread loss of seagrass, but in order to threaten the existence of dwarf seahorses, seagrass loss would have to encompass at least all of south Florida and the Gulf coast of Mexico and Texas.

Literature Review

The dwarf seahorse was first described in 1882 from Pensacola and has been recorded from Bermuda, the Bahamas, Cuba, both coasts of Florida, and throughout the Gulf of Mexico. It is generally found in beds of submerged aquatic vegetation in moderate to high estuarine salinities. We examined some studies from the Western Central Atlantic (roughly North Carolina to northern South America) which were not conducted within the known spatiotemporal range of the dwarf seahorse, but primarily we tried to examine as much literature as possible that met the following criteria: 1) published since the original description, 2) covered localities within the known geographic range of this species, 3) included data from known dwarf seahorse habitat, and 4) employed sampling methods appropriate to the

capture of dwarf seahorses. In all, we examined more than 1,000 references and took notes on approximately 300 of the more appropriate documents. A bibliography of the latter studies can be obtained upon request from R.E. Matheson (eddie.matheson@myfwc.com). Although our literature review was extensive, there are other publications which could include data on this species that we have not reviewed, either due to time constraints or our inability to obtain copies of the publications. We do not, however, believe that the examination of these publications would substantially alter our comments as presented in this document.

We found no records that can be attributed to dwarf seahorses prior to the original description in 1882. We were primarily looking for records of specimens with the low dorsal-fin ray count that separates this species from *Hippocampus erectus* (lined seahorse) and *H. reidi* (longsnout seahorse). In all cases where dorsal-fin counts were given, they were too high for dwarf seahorse. This essentially indicates that the authors of the original description were correct in their assessment of previous literature. The fact that there were no records of this species from localities other than Pensacola prior to 1900 indicates the low probability of 19th century scientists either encountering this species or recognizing it as distinct from the lined seahorse.

We found no records of dwarf seahorse from outside of the range listed above, but our research does indicate that abundance varies greatly within this range. Dwarf seahorses have not been reported from Bermuda since the early 20th century, they have not been reported from the Bahamas since the 1950s, and there are very few records from Cuba. We doubt that any of these locations harbor, or have ever harbored, self-sustaining populations of this species. There are few records from Alabama, Mississippi, or Louisiana, and the total number of specimens from all of these records is low. Abundance in Mexico and Texas is somewhat greater than in all localities other than Florida, but few studies indicate large numbers of specimens. Abundance in Florida appears to be much higher than in other portions of the dwarf seahorse's range. Within Florida, relatively few specimens have been collected north of the Indian River Lagoon on the east coast and north and west of Cedar Key, including the Big Bend region on the west coast. The highest numbers reported in any area within the range of this species are from south Florida, especially Florida Bay. Trends in abundance among Florida regions will be considered in more detail below in our review of fisheries-dependent and fisheries-independent data.

Almost all of the records for dwarf seahorses indicate that the specimens were collected in submerged aquatic vegetation in moderate to high salinity estuarine waters. Very few records could be attributed to other habitats that are often located near seagrass beds, such as salt marshes or unvegetated estuarine or shallow continental shelf habitats, and most of these records had no associated morphological data to support the species-level identification. A few seahorses have been reported from Sargassum or from ichthyoplankton sampling, but few of these have been identified as dwarf seahorses.

Museum Databases

We examined the electronic databases of most of the major museums in the United States (and one in Mexico) for records of dwarf seahorses. We found records of this species in the databases of 18 different museums (we will discuss museum records in terms of lots or separate collections and individual specimens within those lots). A complete list of museums with dwarf seahorse holdings can be obtained from R.E. Matheson, but some of the major holdings are at the United States National Museum, the Florida Museum of Natural History, the American Museum of Natural History, Tulane University, Texas A&M University, and the FWC-FWRI. Museum holdings change nothing about our literature-based assessment of the overall range of this species or the areas of maximum abundance.

We found only 4 lots of this species from Bermuda, the Bahamas, and Cuba. The two Bermuda records were from 1907 and 1908 and included a total of 51 specimens; the Bahamas and Cuba were represented by only two specimens, with the one from the Bahamas being collected in the 1950s and the one from Cuba being collected in the 1970s.

The northern Gulf of Mexico from Alabama to Louisiana was represented by 23 lots and 70 specimens, all from Mississippi and Louisiana. Fifty-two percent of the lots and 61% of the specimens were collected by a small number of researchers working in the seagrass beds of the Chandeleur Islands, Louisiana, in 1970 and 1971. Fourteen of the remaining lots were collected in Louisiana, with only 13 lots from Mississippi.

Collections from Texas are more common and were collected over a long time period. Texas is represented by 46 lots which include 445 specimens and were collected from the 1920s to the 2000s. The majority of specimens (n=395) were collected during the 1950s and 1970s, with those from the former time

period being primarily collected by one researcher and most of those from the latter time period possibly being collected by this same researcher.

Museum collections from Mexico were not common in the databases that we examined, consisting of 12 lots containing 26 specimens. These specimens were collected from the 1930s to the 1990s. There was only one Mexican museum in the databases examined, but U.S. museums do house large collections of other species from Mexico. As mentioned in the literature review above, only a few studies conducted in Mexico indicate that substantial numbers of dwarf seahorses occur in the area.
Museum collections from Florida were much more common than those from any other area. Of the 357 museums lots that we located, 274 (81%) were collected in Florida waters. These lots contain a total of 3,926 specimens and were collected from the 1880s to the 2000s. Museum specimens were most numerous from southeast Florida to the Gulf coast near Cedar Key.

Fisheries-Independent Data

We examined the long-term, fisheries-independent datasets maintained by the FWC-FWRI to determine the distribution and abundance of dwarf seahorses in Florida and detect trends in their abundance since 1990.

We have previously published (McMichael et al. 2005) fisheries-independent analyses of FWC-FWRI data for various Florida estuaries through 2002. These analyses clearly indicate that dwarf seahorses are most abundant in the Florida Bay, Tampa Bay, and Charlotte Harbor, with Florida Bay catches being the highest. Moderate numbers were collected in Fort Walton Beach and northern Indian River Lagoon, and slightly lower catches were obtained at Cedar Key. Monitoring in Apalachicola Bay and the St. Johns River estuary (near Jacksonville) produced very few dwarf seahorses. Long-term data were available for two of the most productive estuaries for dwarf seahorses, Tampa Bay and Charlotte Harbor. Little change in relative annual abundance was detected in Tampa Bay from 1990 to 2002, with a spike in abundance in 2000. Charlotte Harbor annual abundances from 1990-2002 seemed vaguely cyclical with abundance peaks in 1990, 1995-1996, and 2002.

Analyses of more recent FWC-FWRI data confirm the geographic pattern of relative abundance of dwarf seahorses. Abundances in Apalachicola Bay and the St. Johns River estuary were very low. Abundances in Cedar Key, northern Indian River Lagoon, Tampa Bay, and Charlotte Harbor were

somewhat higher, with maximum abundances in Tampa Bay and Charlotte Harbor. Relative interannual abundance at Cedar Key was always lower than in Tampa Bay or Charlotte Harbor, with none collected during many years (Figure 1; data presented are for seine collections only but otter trawls were also deployed in these systems, and this gear produced much lower catch rates). Relative interannual abundance in northern Indian River was generally similar to that in Cedar Key but was more stable over the time series. In 2011, however, this species was not collected in the northern Indian River, and this is probably associated with a widespread loss of seagrass and drift algae in this area. In Tampa Bay, peak abundances were detected in 2000 and 2003-2004, with historically low abundances in 2005, 2007, and 2011 and generally low abundances from 2007 through 2011. In Charlotte Harbor, peak abundances were detected in 1996-1998, 2001-2002, and 2006, with historically low abundances in 2007-2011. The low relative interannual abundances in Tampa Bay and Charlotte Harbor for the last 5 years in the time series are not readily explainable by any known environmental events. In particular, seagrass coverage has increased in parts of Tampa Bay over this time period according the Tampa Bay Estuary Program (http://www.tbep.org/), and seagrass coverage was stable or increasing in Charlotte Harbor from 1999 to 2010 according the Charlotte Harbor National Estuary Program (http://www.chnep.wateratlas.usf.edu/bay/seagrassPopup.asp).

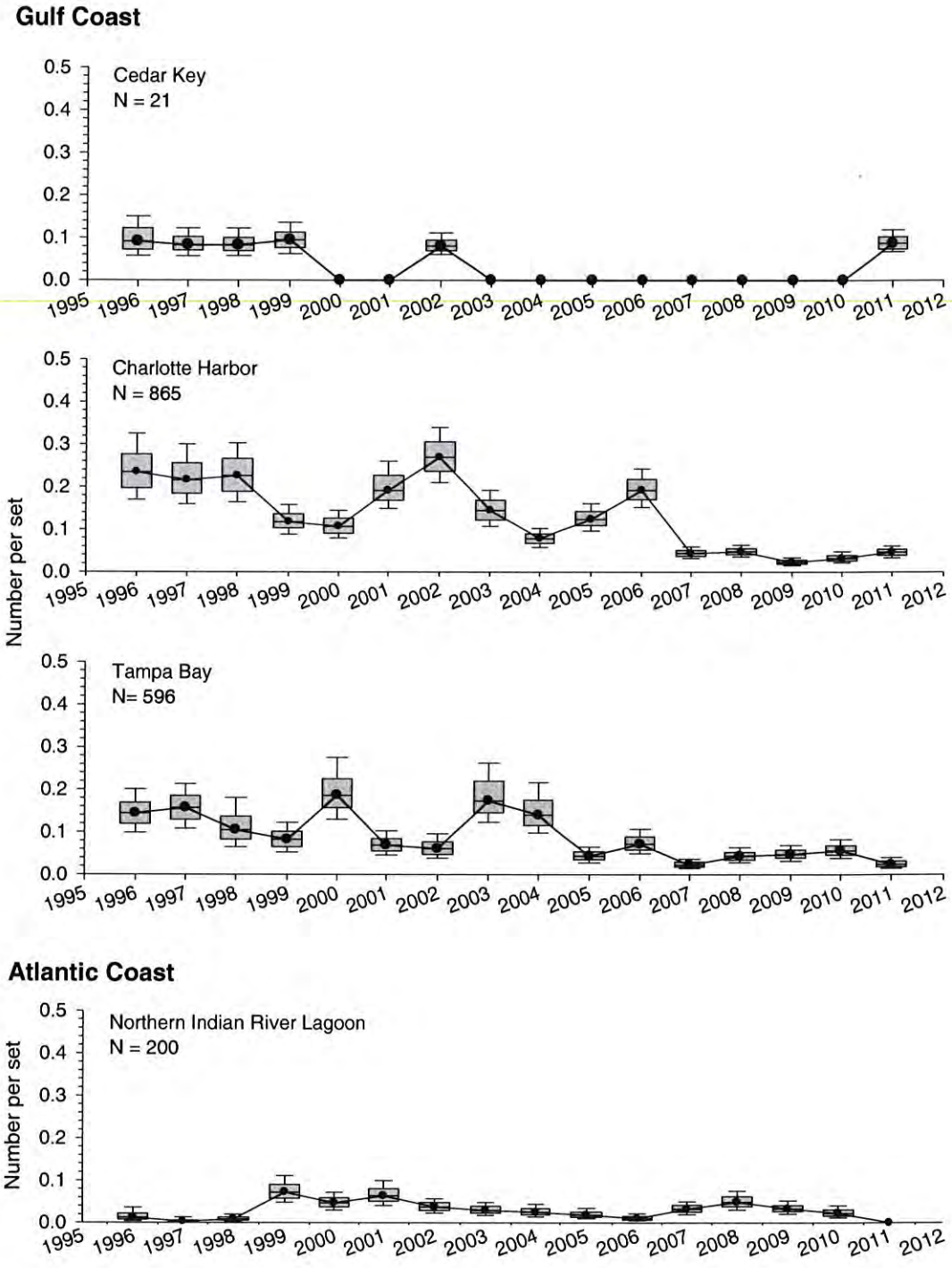

Figure 1. Indices of abundance (IOAs) for dwarf seahorses in four Florida estuaries based on monitoring conducted by the FWC-FWRI Fisheries-Independent Monitoring Program. A detailed description of the monitoring program and the methods for developing IOAs can be obtained from Robert McMichael (bob.mcmichael@myfwc.com).

Monitoring in Florida Bay by FWC-FWRI has been more sporadic but various datasets indicate that this species was abundant in Florida Bay from 1994 through 2009. Some of the results of FWC-FWRI monitoring have been published by Matheson et al. (1999) and by McMichael et al. (2005). The former study compared abundances of various seagrass-associated species before and after the seagrass die-off in Florida Bay in the late 1980s and early 1990s. Relative abundance of dwarf seahorses declined in samples taken after the seagrass die-off, but at a site in western Florida Bay that was the most productive site for this species before and after the die-off, density of dwarf seahorses was still 1 per m^2 after the die-off. Unpublished data from this same study indicate that dwarf seahorse densities averaged over all six study sites in Florida Bay were 0.5 per m^2 and 0.4 per m^2 before and after the die-off, respectively. The results of the analyses presented by McMichael et al. (2005) were presented above. Finally, FWC-FWRI monitored Florida Bay fish populations again from 2006 through 2009 (Figure 2). This sampling program again produced abundances of dwarf seahorses that were larger than those at any other Florida location monitored by FWC-FWRI. The anomaly in these data is that numbers and catch per haul were higher in trawl collections, possibly because more trawl hauls were conducted in relatively shallow seagrass bed in Florida Bay than in other estuaries.

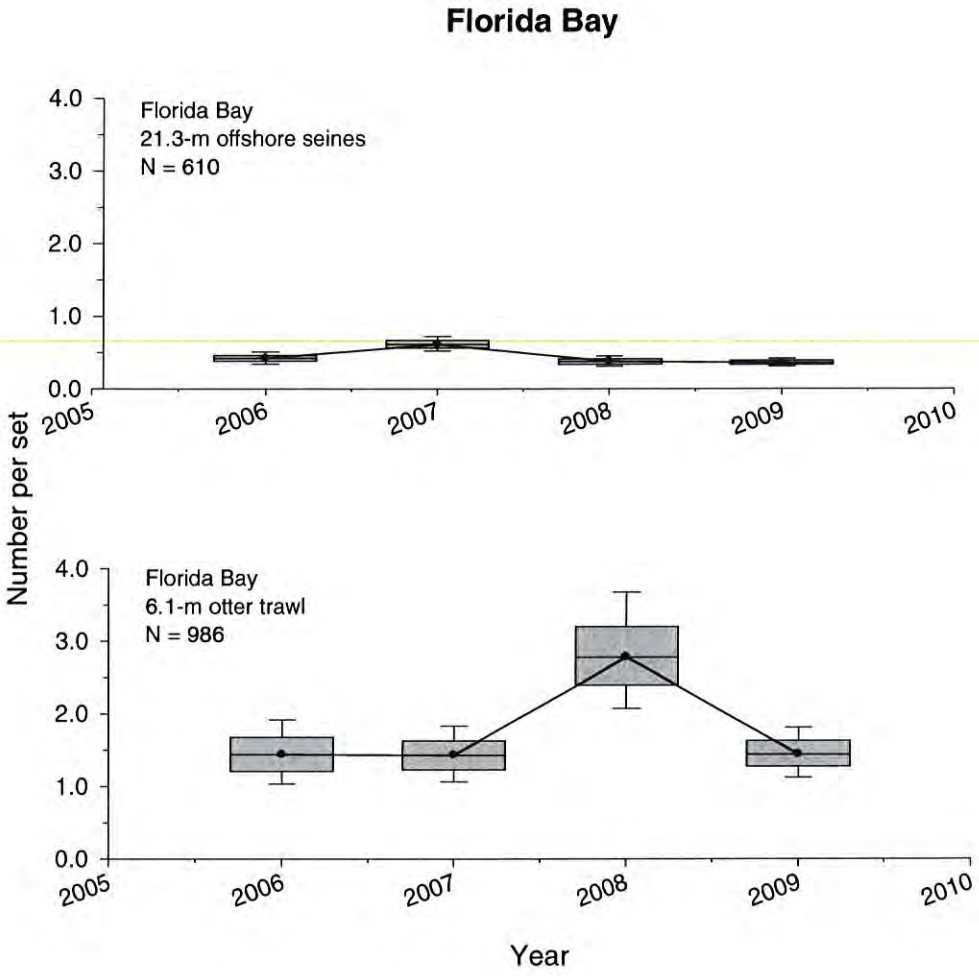

Figure 2. Indices of abundance (IOAs) for dwarf seahorses in Florida Bay based on monitoring conducted by the FWC-FWRI Fisheries-Independent Monitoring Program. A detailed description of the monitoring program and the methods for developing IOAs can be obtained from Robert McMichael (bob.mcmichael@myfwc.com).

Fisheries-Dependent Data

We examined the fisheries-dependent database maintained by FWC-FWRI for dwarf seahorse harvest in Florida from 1990-2012 (Figure 3). The most obvious observation about these data is that tens of thousands are harvested in most years. The reported harvests increased greatly in 1992, and 20,000 or more were harvested in 12 of the 18 years with complete data since 1992 (i.e., excluding 2011 and 2012). The dealers reporting most of the harvest were generally located in the area between Fort Myers and Tampa Bay on the west coast of Florida. This may or may not mean that most of the harvest occurs in

that area. Also, the area with the largest populations of dwarf seahorses, Florida Bay (in the Everglades to Miami category in Figure 3), is in Everglades National Park and is thus not subject to harvest.

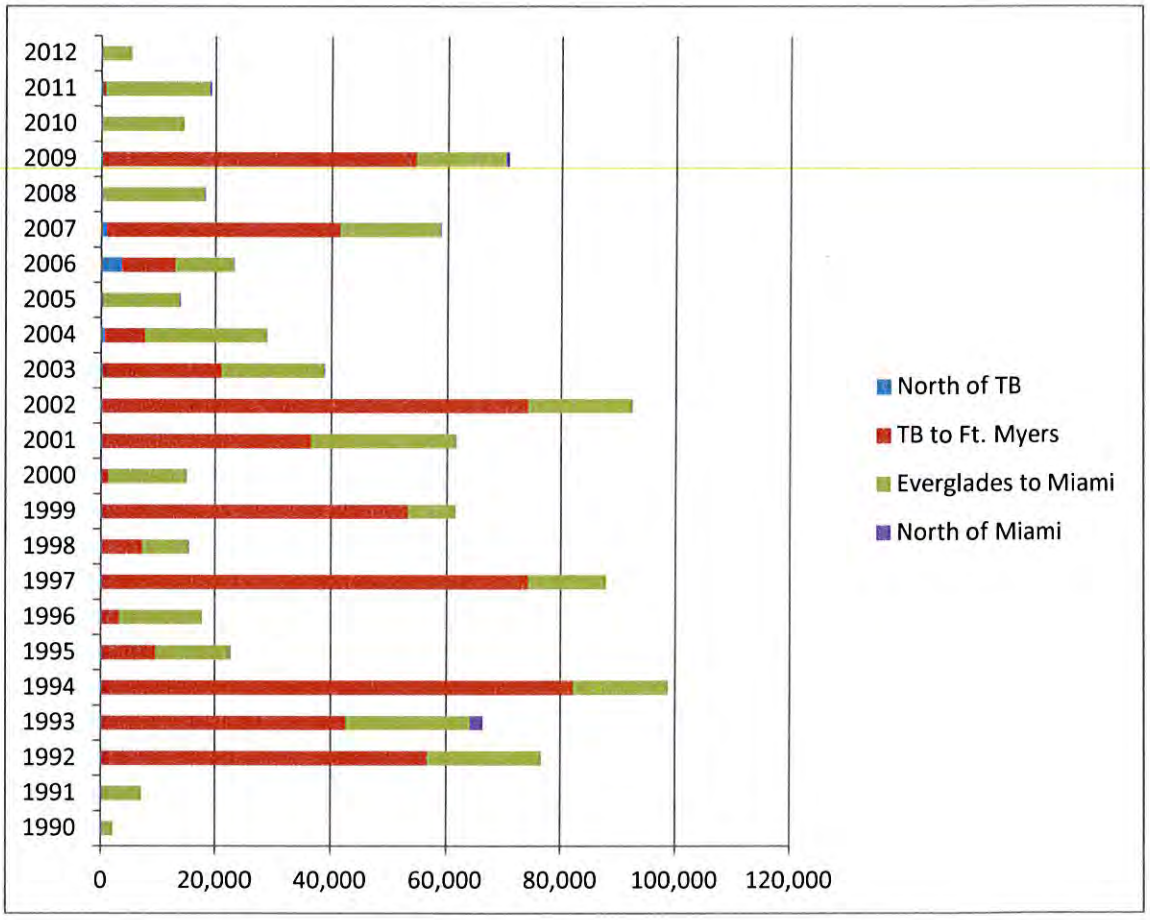

Figure 3. Harvest of dwarf seahorses in four regions of Florida from 1990 through 2012. Note that data for 2011 and 2012 are incomplete. Data compiled by the Fisheries-Dependent Monitoring Program of the FWC-FWRI.

Conclusions

Our overall conclusion is that the dwarf seahorse has a limited geographic range and that its abundance has declined somewhat in recent years in some portions of that range. The limited geographic range and the lack of substantial numbers in ichthyoplankton samples or in floating Sargassum seem to indicate a limited dispersal capability. We find no evidence that dwarf seahorses were historically abundant in most of the northern Gulf of Mexico (i.e., Florida Panhandle, Alabama, Mississippi, and Louisiana). Low relative abundances in Tampa Bay and Charlotte Harbor in recent years are cause for concern, but populations still appear to be large in the area with the

greatest historical abundance, Florida Bay. Florida Bay did experience seagrass die-offs in the recent past, but the area always maintained large expanses of healthy seagrass beds, and dwarf seahorses seem to have fared quite well. This species is one of many whose populations would be decimated by a widespread loss of seagrass, but in order to threaten the existence of dwarf seahorses, seagrass loss would have to encompass at least all of south Florida and the Gulf coast of Mexico and Texas.

The FWC looks forward to continuing to work with NOAA Fisheries Service on this issue. If you have any questions about the information in this letter or Florida's dwarf seahorse fishery, please contact me in the Division of Marine Fisheries Mangement at 850-487-0554, or martha.bademan@myfwc.com.

Sincerely,

Martha Bademan
Section Leader

jm/mb/kb
Enclosure

References

Matheson, Richard E., Jr., Camp, D. K., Sogard, S. M., and Bjorgo, K. A. 1999. Changes in seagrass-associated fish and crustacean communities on Florida Bay mud banks: the effects of recent ecosystem changes? Estuaries 22(2B):534-551.

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CHAPTER 68B-42
MARINE LIFE

68B-42.001 Purpose and Intent; Designation of Restricted Species; Definition of "Marine Life Species".

(1)(a) The purpose and intent of this chapter are to protect and conserve Florida's tropical marine life resources and assure the continuing health and abundance of these species. The further intent of this chapter is to assure that harvesters in this fishery use nonlethal methods of harvest and that the fish, invertebrates, and plants so harvested be maintained alive for the maximum possible conservation and economic benefits.

(b) It is the express intent of the Fish and Wildlife Conservation Commission that landing of live rock propagated through aquaculture will be allowed pursuant to the provisions of this chapter.

(c) The Commission may issue Special Activity Licenses pursuant to Chapter 68B-8, F.A.C., to authorize activities that are otherwise prohibited by this chapter.

(2) The following fish species, as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, are hereby designated as restricted species pursuant to Section 379.101(32), F.S.:

(a) Moray eels – Any species of the Family Muraenidae.

(b) Snake eels – Any species of the Genera *Myrichthys* and *Myrophis* of the Family Ophichthidae.

(c) Toadfish – Any species of the Family Batrachoididae.

(d) Frogfish – Any species of the Family Antennariidae.

(e) Batfish – Any species of the Family Ogcocephalidae.

(f) Clingfish – Any species of the Family Gobiesocidae.

(g) Trumpetfish – Any species of the Family Aulostomidae.

(h) Cornetfish – Any species of the Family Fistulariidae.

(i) Pipefish/seahorses – Any species of the Family Syngnathidae.

(j) Hamlet/seabass – Any species of the Family Serranidae, except groupers of the genera *Epinephalus* and *Mycteroperca*, seabass of the genus *Centropristis*, and longtail bass, *Hemanthias leptus*.

(k) Basslets – Any species of the Family Grammatidae.

(l) Cardinalfish – Any species of the Family Apogonidae.

(m) Porkfish – *Anisotremus virginicus*.

(n) High-hat, Jackknife-fish, Spotted drum, Cubbyu – Any species of the genus *Equetus* of the Family Sciaenidae.

(o) Reef Croakers – Any of the species *Odontoscion dentex*.

(p) Sweepers – Any species of the Family Pempheridae.

(q) Butterflyfish – Any species of the Family Chaetodontidae.

(r) Angelfish – Any species of the Family Pomacanthidae.

(s) Damselfish – Any species of the Family Pomacentridae.

(t) Hawkfish – Any species of the Family Cirrhitidae.

(u) Wrasse/hogfish/razorfish – Any species of the Family Labridae, except hogfish, *Lachnolaimus maximus*.

(v) Parrotfish – Any species of the Family Scaridae.

(w) Jawfish – Any species of the Family Opistognathidae.

(x) Blennies – Any species of the Families Clinidae or Blenniidae.

(y) Sleepers – Any species of the Family Eleotridae.

(z) Gobies – Any species of the Family Gobiidae.

(aa) Tangs and surgeonfish – Any species of the Family Acanthuridae.

(bb) Filefish/triggerfish – Any species of the Family Balistidae, except gray triggerfish, *Balistes capriscus* and ocean triggerfish, *Canthidermis sufflamen*.

(cc) Trunkfish/cowfish – Any species of the Family Ostraciidae.

(dd) Pufferfish/burrfish/balloonfish/porcupinefish – Any of the following species:

1. Balloonfish – *Diodon holocanthus*.
2. Sharpnose puffer – *Canthigaster rostrata*.
3. Striped burrfish – *Chilomycterus schoepfi.*
4. Porcupinefish – *Diodon hystrix.*
5. Spotted burrfish – *Chilomycterus atringa.*

(ee) Black brotula – *Stygnobrotula latebricola.*

(ff) Key brotula – *Ogilbia cayorum.*

(gg) Blackbar soldierfish – *Myripristis jacobus*.

(hh) Yellow stingray – *Urobatis jamaicensis.*

(3) The following invertebrate species, as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, are hereby designated as restricted species pursuant to Section 379.101(32), F.S.:

(a) Sponges – Any species of the Class Demospongiae, except sheepswool, yellow, grass, glove, finger, wire, reef, and velvet sponges, Order Dictyoceratida.

(b) Upside-down jellyfish – Any species of the Genus *Cassiopea*.

(c) Siphonophores/hydroids – Any species of the Class Hydrozoa, except fire corals, Family Milleporidae.

(d) Soft corals – Any species of the Subclass Octocorallia, except sea fans *Gorgonia flabellum* and *Gorgonia ventalina*.

(e) Sea anemones – Any species of the Orders Actiniaria, Zoanthidea, Corallimorpharia, and Ceriantharia.

(f) Featherduster worms/calcareous tubeworms – Any species of the Families Sabellidae and Serpulidae.

(g) Starsnails – Any of the species *Lithopoma americanum, Lithopoma tectum,* or *Astralium phoebium*.

(h) Nudibranchs/sea slugs – Any species of the Subclass Opisthobranchia.

(i) Fileclams – Any species of the Genus *Lima*.

(j) Octopods – Any species of the Order Octopoda, except the common octopus, *Octopodus vulgaris*.

(k) Shrimp – Any of the following species:

1. Cleaner shrimp and peppermint shrimp – Any species of the Genera *Periclimenes* or *Lysmata*.
2. Coral shrimp – Any species of the Genus *Stenopus*.
3. Snapping shrimp – Any species of the Genus *Alpheus*.

(l) Crabs – Any of the following species:

1. Yellowline arrow crab – *Stenorhynchus seticornis.*
2. Furcate spider or decorator crab – *Stenocionops furcatus*.
3. Blue-legged or tricolor hermit crab – *Clibanarius tricolor*.
4. Thinstripe hermit crab – *Clibanarius vittatus*.
5. Polkadotted hermit crab – *Phimochirus operculatus*.
6. Spotted porcelain crab – *Porcellana sayana*.
7. Nimble spray or urchin crab – *Percnon gibbesi.*
8. False arrow crab – *Metoporhaphis calcarata.*

(m) Starfish – Any species of the Class Asteroidea, except the Bahama starfish, *Oreaster reticulatus*.

(n) Brittlestars – Any species of the Class Ophiuroidea.

(o) Sea urchins – Any species of the Class Echinoidea, except longspine urchin, *Diadema antillarum*, and sand dollars and sea biscuits, Order Clypeasteroida.

(p) Sea cucumbers – Any species of the Class Holothuroidea.

(q) Sea lilies – Any species of the Class Crinoidea.

(r) Red mithrax crab – *Mithraculus ruber.*

(s) Red-ridged clinging crab – *Mithraculus forceps.*

(t) Green clinging or emerald crab – *Mithraculus sculptus.*

(u) Hermit Crabs – Any species of the families Diogenidae (left-handed hermit crabs) or Paguridae (right-handed hermit crabs) or Parapaguridae (deepwater hermit crabs) or Pylochelidae (symmetrical hermit crabs).

(v) Nassarius snails – Any species of the genus *Nassarius.*

(4) The following species of plants, as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, are hereby designated as restricted species pursuant to Section 379.101(32), F.S.:

(a) Caulerpa – Any species of the Family Caulerpaceae.

(b) Halimeda/mermaid's fan/mermaid's shaving brush – Any species of the Family Udoteaceae.

(c) Coralline red algae – Any species of the Family Corallinaceae.

(5) For the purposes of Section 379.361(2)(j), F.S., the term "marine life species" is defined to mean those species designated as restricted species in subsections (2), (3), and (4) of this rule.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 6-1-99, Formerly 46-42.001, Amended 10-7-01, 7-1-09.

68B-42.002 Definitions.

As used in this rule chapter:

(1) "Barrier net," also known as a "fence net," means a seine used beneath the surface of the water by a diver to enclose and concentrate tropical fish and which may be made of either nylon or monofilament.

(2) "Colony" means a continuous group of octocoral polyps forming a single unit.

(3) "Commercial quantities" means any amount of marine life harvested or possessed for the purposes of sale or with intent to sell or in excess of the recreational bag limit.

(4) "Diving" means swimming at or below the surface of the water.

(5) "Drop net" means a small, usually circular, net with weights attached along the outer edge and a single float in the center, used by a diver to enclose and concentrate tropical fish.

(6) "Fork Length" means the length of a fish as measured from the most forward point of the head to the rear center edge of the tail.

(7) "Hand held net" means a landing or dip net as defined in subsection 68B-4.002(4), F.A.C., except that a portion of the bag may be constructed of clear plastic material, rather than mesh.

(8) "Harvest" means the catching or taking of a marine organism by any means whatsoever, followed by a reduction of such organism to possession. Marine organisms that are caught but immediately returned to the water free, alive, and unharmed are not harvested. In addition, temporary possession of a marine animal for the purpose of measuring it to determine compliance with the minimum or maximum size requirements of this chapter shall not constitute harvesting such animal, provided that it is measured immediately after taking, and immediately returned to the water free, alive, and unharmed if undersize or oversize.

(9) "Harvest for commercial purposes" means the taking or harvesting of any tropical ornamental marine life species or tropical ornamental marine plant for purposes of sale or with intent to sell. The harvest of tropical ornamental marine life species or tropical ornamental marine plants in excess of the bag limit shall constitute a violation of this rule.

(10) "Immediate family" refers to a license holder's mother, father, sister, brother, spouse, son, daughter, step-father, step-mother, step-son, step-daughter, half-sister, half-brother, son-in-law, or daughter-in-law.

(11) "Land," when used in connection with the harvest of marine organisms, means the physical act of bringing the harvested organism ashore.

(12) "Live rock" means rock with living marine organisms attached to it.

(13) "Octocoral" means any erect, nonencrusting species of the Subclass Octocorallia, except the species *Gorgonia flabellum* and *Gorgonia ventalina*.

(14) "Power tool" means anything other than a hand-powered tool. Prohibited devices include but are not limited to electric, gas, hydraulic or air-powered tools.

(15) "Slurp gun" means a self-contained, handheld device that captures tropical fish by rapidly drawing seawater containing

such fish into a closed chamber.

(16) "Total length" means the straight line distance from the most forward point of the head with the mouth closed, to the farthest tip of the tail with the tail compressed or squeezed, while the fish is lying on its side.

(17) "Trawl" means a net in the form of an elongated bag with the mouth kept open by various means and fished by being towed or dragged on the bottom. "Roller frame trawl" means a trawl with all of the following features and specifications:

(a) A rectangular rigid frame to keep the mouth of the trawl open while being towed.

(b) The lower horizontal beam of the frame has rollers to allow the trawl to roll over the bottom and any obstructions while being towed.

(c) The trawl opening is shielded by a grid of vertical bars spaced no more than 3 inches apart.

(d) The trawl is towed by attaching a line or towing cable to a tongue located above or at the center of the upper horizontal beam of the frame.

(e) The trawl has no doors attached to keep the mouth of the trawl open.

(18) "Tropical fish" means any species included in subsection (2) of Rule 68B-42.001, F.A.C., or any part thereof.

(19) "Tropical ornamental marine life species" means any species included in subsection (2) or (3) of Rule 68B-42.001, F.A.C., or any part thereof.

(20) "Tropical ornamental marine plant" means any species included in subsection (4) of Rule 68B-42.001, F.A.C.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 7-15-96, Formerly 46-42.002, Amended 2-1-05, 7-1-06, 7-1-09, 10-31-11.

68B-42.003 Prohibition of Harvest: Longspine Urchin, Bahama Starfish.

No person shall harvest or possess within or without the waters of the state, or land any of the following species:

(1) Longspine urchin, *Diadema antillarum*.

(2) Bahama starfish, *Oreaster reticulatus*.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, Formerly 46-42.003, Amended 10-31-11.

68B-42.0035 Live Landing and Live Well Requirements.

(1) Each person harvesting any tropical ornamental marine life species or any tropical ornamental marine plant within or without state waters shall land such marine organism alive.

(2) Each person harvesting any tropical ornamental marine life species or any tropical ornamental marine plant within or without state waters shall have aboard the vessel being used for such harvest a continuously circulating live well or aeration or oxygenation system of adequate size and capacity to maintain such harvested marine organisms in a healthy condition.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-1-92, Formerly 46-42.0035, Amended 10-31-11.

68B-42.0036 Closed Areas.

(1) No person shall harvest any tropical ornamental marine life species or any tropical ornamental marine plant within Biscayne National Park, unless such person possesses a valid collecting permit issued by the superintendent of the park.

(2) For purposes of this rule, the term "Biscayne National Park" shall mean all waters lying within the boundaries of the park as described in subsection 68B-28.004(2), F.A.C.

(3) No person shall harvest or possess any octocorals in the following areas:

(a) Federal Exclusive Economic Zone (EEZ) waters of the Atlantic Ocean north of 28°35.1' N. lat. (due east of the NASA Vehicle Assembly Building, Cape Canaveral, FL).

(b) Stetson-Miami Terrace Deepwater Coral Habitat Area of Particular Concern.

(c) Pourtales Terrace Deepwater Coral Habitat Area of Particular Concern.

(4) For the puposes of this rule, the term "Stetson-Miami Terrace Deepwater Coral Habitat Area of Particular Concern" shall mean all waters lying within the following geographical boundary coordinates:

Point	Latitude	Longitude

133	28°30'37"N	79°48'35"W
134	28°14'00"N	79°46'20"W
135	28°11'41"N	79°46'12"W
136	28°08'02"N	79°45'45"W
137	28°01'20"N	79°45'20"W
138	27°58'13"N	79°44'51"W
139	27°56'23"N	79°44'53"W
140	27°49'40"N	79°44'25"W
141	27°46'27"N	79°44'22"W
142	27°42'00"N	79°44'33"W
143	27°36'08"N	79°44'58"W
144	27°30'00"N	79°45'29"W
145	27°29'04"N	79°45'47"W
146	27°27'05"N	79°45'54"W
147	27°25'47"N	79°45'57"W
148	27°19'46"N	79°45'14"W
149	27°17'54"N	79°45'12"W
150	27°12'28"N	79°45'00"W
151	27°07'45"N	79°46'07"W
152	27°04'47"N	79°46'29"W
153	27°00'43"N	79°46'39"W
154	26°58'43"N	79°46'28"W
155	26°57'06"N	79°46'32"W
156	26°49'58"N	79°46'54"W
157	26°48'58"N	79°46'56"W
158	26°47'01"N	79°47'09"W
159	26°46'04"N	79°47'09"W
160	26°35'09"N	79°48'01"W
161	26°33'37"N	79°48'21"W
162	26°27'56"N	79°49'09"W
163	26°25'55"N	79°49'30"W
164	26°21'05"N	79°50'03"W
165	26°20'30"N	79°50'20"W
166	26°18'56"N	79°50'17"W
167	26°16'19"N	79°54'06"W
168	26°13'48"N	79°54'48"W
169	26°12'19"N	79°55'37"W
170	26°10'57"N	79°57'05"W
171	26°09'17"N	79°58'45"W
172	26°07'11"N	80°00'22"W
173	26°06'12"N	80°00'33"W
174	26°03'26"N	80°01'02"W
175	26°00'35"N	80°01'13"W
176	25°49'10"N	80°00'38"W
177	25°48'30"N	80°00'23"W
178	25°46'42"N	79°59'14"W
179	25°27'28"N	80°02'26"W
180	25°24'06"N	80°01'44"W
181	25°21'04"N	80°01'27"W

182	25°21'04"N	79°42'04"W

(5) For the purposes of this rule, the term "Pourtales Terrace Deepwater Coral Habitat Area of Particular Concern" shall mean all waters lying within the following geographical boundary coordinates:

Point	Latitude	Longitude
Origin	24°20'12"N	80°43'50"W
1	24°33'42"N	80°34'23"W
2	24°37'45"N	80°31'20"W
3	24°47'18"N	80°23'08"W
4	24°51'08"N	80°27'58"W
5	24°42'52"N	80°35'51"W
6	24°29'44"N	80°49'45"W
7	24°15'04"N	81°07'52"W
8	24°10'55"N	80°58'11"W

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-1-92, Formerly 46-42.0036, Amended 10-31-11.

68B-42.004 Size Limits.

(1) The regulations in this section apply in all state waters and, in absence of any regulations for the species in federal waters, apply in adjacent federal Exclusive Economic Zone (EEZ) waters.

(2) Angelfishes:

(a) No person harvesting for commercial purposes shall harvest, possess, or land any of the following species of angelfish (Family Pomacanthidae), of total length outside of the limits specified below:

1. A minimum of one-and-one-half (1 1/2) inches and a maximum of eight (8) inches for:

a. Gray angelfish (*Pomacanthus arcuatus*).

b. French angelfish (*Pomacanthus paru*).

2. A minimum of one-and-three-quarters (1 3/4) inches and a maximum of eight (8) inches for:

a. Blue angelfish (*Holacanthus bermudensis*).

b. Queen angelfish (*Holacanthus ciliaris)*.

3. A minimum of two (2) inches and a maximum of five (5) inches for rock beauty (*Holacanthus tricolor*).

(b) Except as provided herein, no person shall purchase, sell, or exchange any angelfish outside the limits specified in paragraph (a). This prohibition shall not apply to angelfish legally harvested outside of state waters or federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, which angelfish are entering Florida in interstate or international commerce. The burden shall be upon any person possessing such angelfish for sale or exchange to establish the chain of possession from the initial transaction after harvest, by appropriate receipt(s), bill(s) of sale, or bill(s) of lading, and any customs receipts, and to show that such angelfish originated from a point outside the waters of the State of Florida or federal Exclusive Economic Zone (EEZ) waters adjacent to Florida waters and entered the state in interstate or international commerce. Failure to maintain such documentation or to promptly produce same at the request of any duly authorized law enforcement officer shall constitute a violation of this rule.

(3) Butterflyfishes:

(a) No person harvesting for commercial purposes shall harvest, possess, or land any butterflyfish (Family Chaetodontidae) of total length less than one (1) inch.

(b) No person shall harvest, possess, or land any butterflyfish of total length greater than 4 inches.

(4) Gobies – No person shall harvest, possess, or land any gobie (Family Gobiidae) of total length greater than 2 inches.

(5) Jawfishes – No person shall harvest, possess, or land any jawfish (Family Opistognathidae) of total length greater than 4 inches.

(6) Porkfish – No person shall harvest, possess, or land any porkfish (*Anisotremus virginicus*) of total length less than 1 1/2 inches.

(7) Cuban (Spotfin) and Spanish hogfish:

(a) No person shall harvest, possess, or land any Spanish hogfish *(Bodianus rufus)* of total length less than 2 inches.

(b) No person shall harvest, possess, or land any Cuban (spotfin) hogfish (*Bodianus pulchellus*) of total length less than 3

inches.

(c) No person shall harvest, possess, or land any Spanish hogfish (*Bodianus rufus*) or Cuban (spotfin) hogfish (*Bodianus pulchellus*) of total length greater than 8 inches.

(8) Tangs – No person shall harvest, possess, or land any tangs (Family Acanthuridae) of fork length greater than 9 inches.

(9) Parrotfish – No person shall harvest, possess, or land any parrotfish (Family Scaridae) of total length greater than 12 inches.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 7-15-96, Formerly 46-42.004, Amended 6-1-99, 7-1-09, 10-31-11.

68B-42.005 Recreational Bag Limit.

(1) The regulations in this section apply in all state waters and, in absence of any regulations for the species in federal waters, apply in adjacent federal Exclusive Economic Zone (EEZ) waters.

(2) Except as provided in Rule 68B-42.006, F.A.C., or subsection (3) or (4) of this rule, no person shall harvest, possess, or land more than 20 individuals per day of tropical ornamental marine life species. No more than 5 of any one species, as defined in subsection 68B-42.001(2) and (3), F.A.C., can be harvested within the 20 organism bag limit. No person shall possess more than 40 total marine life organisms anywhere at any time.

(3) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than one (1) gallon per day of tropical ornamental marine plants, in any combination of species. No person shall harvest or possess more than 2 gallons of tropical ornamental plants anywhere at any time.

(4) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 angelfishes (Family Pomacanthidae) per day. Each angelfish shall be counted for purposes of the 20 individual bag limit specified in subsection (1) of this rule.

(5)(a) Except as provided in Rule 68B-42.006, F.A.C., unless the season is closed pursuant to paragraph (b), no person shall harvest, possess, or land more than 6 colonies per day of octocorals. Each colony of octocorals or part thereof shall be considered an individual of the species for purposes of subsection (2) of this rule and shall be counted for purposes of the 20 individual bag limit specified therein. Each person harvesting any octocoral as authorized by this rule may also harvest substrate within 1 inch of the perimeter of the holdfast at the base of the octocoral, provided that such substrate remains attached to the octocoral.

(b) If the octocoral quota established in Rule 68B-42.006, F.A.C., is projected to be met prior to September 30 of any year, the season for harvest of octocorals shall close until the following October 1, upon notice given by the Executive Director of the Fish and Wildlife Conservation Commission, in the manner provided in Section 120.81(5), F.S.

(6) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 single polyps in the order Corallimorpharia. Each polyp must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(7) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 polyps of the order Zoanthidea. Each zoanthid polyp must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(8) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 ornamental sponges as defined in Rule 68B-42.001, F.A.C. In all waters north of a line extending due west from the southernmost point of Egmont Key in the Gulf of Mexico, northward and westward these sponges can be collected with substrate within 1 inch of the perimeter of the holdfast at the base of the sponge and extending 1 inch below the holdfast of the sponge. South of this line, no substrate is allowed.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 1-1-95, Formerly 46-42.005, Amended 7-1-09, 10-31-11.

68B-42.006 Commercial Season, Harvest Limits.

(1) The regulations in this section apply in all state waters and, in absence of any regulations for the species in federal waters, apply in adjacent federal Exclusive Economic Zone (EEZ) waters.

(2) Except as provided in Rule 68B-42.008, F.A.C., no person shall harvest, possess, or land quantities of tropical ornamental marine life species or tropical ornamental marine plants in excess of the bag limits established in Rule 68B-42.005, F.A.C., unless such person is fishing under or harvesting under a valid saltwater products license with both a marine life fishery endorsement and a restricted species endorsement issued by the Fish and Wildlife Conservation Commission.

(3) Persons harvesting tropical ornamental marine life species or tropical ornamental marine plants for commercial purposes shall have a season that begins on October 1 of each year and continues through September 30 of the following year. These persons shall not harvest, possess, or land tropical ornamental marine life species in excess of the following limits:

(a) A limit of 75 angelfish (Family Pomacanthidae) per person per day or 150 angelfish per vessel per day, whichever is less.

(b) A limit of 50 butterflyfishes (Family Chaetodontidae) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 100 aboard a vessel at any time with two of more unique saltwater license numbers with marine life endorsements aboard.

(c) A limit of 75 porkfish (A*nisotremus virginicus*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 150 porkfish aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(d) A limit of 50 Spanish hogfish (*Bodianus rufus*) and 50 Cuban (spotfin) hogfish (*Bodianus pulchellus*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 100 of either aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(e) A limit of 400 dwarf seahorses (*Hippocampus zosterae*) per person or per vessel per day, whichever is less.

(f) There shall be no limits on the harvest for commercial purposes of octocorals unless and until the season for all harvest of octocorals is closed. The quota for all persons who harvest allowable octocoral is 70,000 colonies. When this quota is projected to be met, the season for harvest of octocorals shall close until the following October 1, upon notice given by the Executive Director of the Fish and Wildlife Conservation Commission, in the manner provided in Section 120.81(5), F.S. Each person harvesting any octocoral as authorized by this rule may also harvest substrate within 1 inch of the perimeter of the holdfast at the base of the octocoral, provided that such substrate remains attached to the octocoral.

(g) A limit of 200 giant Caribbean or "pink-tipped" anemones (Genus Condylactis) per unique saltwater product license number bearing a unique marine life endorsement number with a maximum possession limit of 400 aboard a vessel at any time with two unique marine life endorsement numbers aboard.

(h) A limit of one gallon of starsnails (*Lithopoma americanum*, *Lithopoma tectum*, or *Astralium phoebium*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 2 gallons aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(i) A limit of one quart of blue-legged or tricolor hermit crabs (*Clibanarius tricolor*) per person or per vessel each day, whichever is less.

(j) A limit of 100 single polyps in the order Corallimorpharia per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 200 single corallimorph polyps aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard. These polyps must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(k) A limit of 1 gallon of polyps of the order Zoanthidea per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 2 gallons aboard a vessel at any time with two or more unique saltwater products license numbers with the marine life endorsement aboard. Zoanthid polyps must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(l) A limit of 400 emerald crabs (*Mithraculus sculptus*) per person or per vessel per day, whichever is less.

(m) A limit of one quart of scarlet reef hermits (*Paguristes cadenati*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of two quarts aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(n) There is no harvest limit of ornamental sponges as defined in Rule 68B-42.001, F.A.C., however in all waters north of a line extending due west from the southernmost point of Egmont Key in the Gulf of Mexico, northward and westward these sponges can be collected with substrate within 1 inch of the perimeter of the holdfast at the base of the sponge and extending 1 inch below the holdfast of the sponge. South of this line, no substrate is allowed.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95,

Formerly 46-42.006, Amended 6-1-99, 2-28-02, 7-1-09, 10-31-11.

68B-42.0065 Commercial Requirements; Endorsements; Requalifying; Appeals; Leasing; Transferability.

(1)(a) Beginning in the 2005/2006 license year, in addition to a valid saltwater products license with a valid restricted species endorsement, a marine life tiered endorsement is required to harvest marine life species within or without state waters in quantities greater than the recreational bag limit or to sell marine life species as defined by Rule 68B-42.001, F.A.C.

(b) A marine life endorsement is not required to harvest live rock from a certified state aquaculture lease or federally permitted aquaculture site.

(2) The Commission shall notify all holders of a 2004/2005 saltwater products license with a marine life endorsement of their initial award or denial of a commercial marine life tiered endorsement. Persons will indicate either their acceptance of the initial award on a Marine Life Tiered Endorsement Application (Form DMF-SL4100 (2-05), incorporated herein by reference) or intent to appeal as specified in subsection (14).

(3) Application for issuance of a commercial marine life tiered endorsement (Form DMF-SL4100 (2-05), incorporated herein by reference), must be received by the Commission no later than September 30, 2005. An applicant may be a person, firm, or corporation.

(a) A tiered endorsement applicant must have held a valid marine life endorsement during the 2004/2005 license year. No new marine life tiered endorsement will be issued to an applicant who did not hold a valid saltwater products license with a valid restricted species endorsement and a marine life endorsement pursuant to Section 379.361, F.S., at the time of application or on June 30, 2005.

(b) Qualification for a marine life tiered endorsement shall be determined by landings of marine life species as defined by Rule 68B-42.001, F.A.C., and reported on a valid saltwater products license with a valid restricted species endorsement and a marine life endorsement (ML) and as specified in paragraph (c) of this subsection.

(c) Qualified endorsement applicants must have documented commercial marine life landings, pursuant to Commission trip ticket records generated under the provisions of Rule Chapter 68E-5, F.A.C., during the license year, July 1, 1999 through June 30, 2000; the license year, July 1, 2000 through June 30, 2001; the license year, July 1, 2001 through June 30, 2002; or during the license year, July 1, 2002 through June 30, 2003. Qualifying landings must have been received by the FWC by January 1, 2004.

(d) Landings reported on all the applicant's individual and vessel saltwater products licenses with the current marine life endorsement will be used to determine an applicant's eligibility to receive one of the marine life tiered endorsements specified in subsections (4) through (6).

(4) Marine Life Bycatch Endorsement (MLB) – The marine life bycatch endorsement is required to harvest commercial quantities of marine life using bycatch gears as authorized in paragraph 68B-42.007(1)(f) and subsection 68B-42.007(3), F.A.C., which does not include harvest by diving.

(a) An applicant for the marine life bycatch endorsement must have an annual landings value of marine life as defined in paragraph (3)(b) of greater than zero dollars but less than $5,000 during any one of the qualifying years specified in paragraph (3)(c).

(b) A marine life bycatch endorsement will be issued on no more than one of an applicant's saltwater products licenses in any one license year.

(c) A marine life bycatch endorsement is transferable pursuant to subsections (16) and (17).

(5) Marine Life Transferable Dive Endorsement (MLD) – The marine life transferable dive endorsement is required to harvest commercial quantities of marine life using all allowable gears as authorized in Rule 68B-42.007, F.A.C., which includes harvest by diving.

(a) No marine life transferable dive endorsement will be issued to an applicant who does not qualify by one of the following methods:

1. An applicant must have qualified as specified in subsection (3) and have documented commercial marine life landings as defined in paragraph (3)(b) of greater than or equal to $5,000 in any one of the qualifying years specified in paragraph (3)(c), and have documented dive landings during the qualifying years; or

2. An applicant must hold a live rock state lease or federal permit and have documented live rock landings value of greater than or equal to $5,000 during any one of the qualifying years specified in paragraph (3)(c) and held a marine life endorsement prior to 1998.

(b) A marine life transferable dive endorsement will be issued on no more than two of an applicant's saltwater products licenses in any one license year, except that an individual who has qualified as specified in subparagraph (a)1. and who has additional landings values of commercial marine life landings pursuant to subsection (3) on a subsequent saltwater products license held by the applicant of greater than $10,000 may place the marine life transferable dive (MLD) on the additional vessel SPL(s) so qualified.

(c) A marine life transferable dive endorsement is transferable pursuant to subsections (16) and (17).

(6) Marine Life Non-transferable Dive Endorsement (MLN) – The marine life non-transferable dive endorsement is required to harvest commercial quantities of marine life by diving as defined in subsection 68B-42.002(3), F.A.C., using dive gears as authorized in paragraphs 68B-42.007(1)(a)-(e) and subsection 68B-42.007(2), F.A.C.

(a) No marine life non-transferable dive endorsements will be issued to an applicant who does not qualify by one of the following methods:

1. As specified in paragraph (4)(a); or

2. An applicant must hold a state live rock lease and/or a federal live rock permit and provide documentation of development of the site or sites and must have held a marine life endorsement prior to September 30, 2003.

(b) A marine life non-transferable dive endorsement will be issued on no more than one of an applicant's saltwater products licenses in any one license year.

(c) A marine life non-transferable dive endorsement (MLN) is not transferable, except in the event of death or permanent disability pursuant to subsection (17).

(7) After initial issuance, no endorsement may be converted from one type to another, except as provided in subsection (12).

(8) No Vested Rights. This marine life effort management program does not create any vested rights for endorsement holders whatsoever and may be altered or terminated by the Commission as necessary to protect the marine life resource, the participants of the fishery, or the public interest.

(9) No person, firm, or corporation shall be issued more than one marine life tiered endorsement type or more than one unique marine life tiered endorsement number.

(10) Effective September 30, 2005, no additional tiered endorsements will be issued and no endorsement will be renewed or replaced except those that were issued pursuant to subsection (4), (5), or (6). Beginning in the 2006/2007 license year, persons holding an endorsement that was active during the 2005/2006 license year or an immediate family member of that person must request renewal of the endorsement before September 30 of each year. Failure to renew by September 30 of any year will result in forfeiture of the endorsement.

(11) Requalifying. Beginning with license year 2010/2011, a person renewing a marine life transferable dive (MLD) endorsement must document landings of $5,000 of marine life species as defined by Rule 68B-42.001, F.A.C., in one of the previous three license years or hold a live rock state lease or federal permit and have documented live rock landings value of greater than or equal to $5,000 during any one of the previous three license years. This endorsement will be valid for three years from the date of documentation used to qualify, but must still be renewed annually as required by subsection (10).

(12) A marine life transferable dive (MLD) endorsement can be converted to a marine life non-transferable dive (MLN) endorsement after the initial issuance. This MLN is not subject to the requalification requirements of subsection (11). This MLN can never be converted back to a MLD.

(13) A permanent marine life transferable dive (MLD) endorsement shall be available to those persons age 62 and older who held a valid MLD in the previous license year, hold a valid saltwater products license and valid restricted species endorsement at the time of application, and renew the permit pursuant to subsection (10).

(14) Appeals. The Director of the Division of Marine Fisheries Management, or one or more designees of the director, shall consider disputes and other problems arising from the initial denial of a commercial marine life tiered endorsement. The Director shall submit a recommendation to the Executive Director of the Commission for resolution of the appeal, which recommendation shall either allot an endorsement to the appellant or uphold the denial of an endorsement.

(a) An appeal of the initial denial or award of a commercial marine life tiered endorsement is initiated by submission and receipt of a completed appeals application (Form DMF-SL4110 (2-05), incorporated herein by reference) to the Director of the Division of Marine Fisheries Management before April 1, 2005.

(b) The burden of proof shall be on an appellant to demonstrate, through copies of trip tickets or other proof of landings, legitimate sales to a licensed wholesale dealer that were not reported by the wholesale dealer during the qualifying years or included in the agency landings database as of January 1, 2004.

(c) Special circumstances that can be considered during appeals shall include:

1. Persons who became disabled or can document hardship during the qualifying period, but can provide proof of landings of marine life through trip tickets prior to the qualifying period.

2. Persons who were serving in the military during the qualifying years, but can provide proof of landings of marine life through trip tickets prior to the qualifying period.

3. Persons involved in a partnership substantiated by documentation within the qualifying period.

(d) The Executive Director of the Commission may accept or disapprove the recommendations of the Director of the Division of Marine Fisheries Management, with notice given in writing to each party in the dispute explaining the reasons for the final decision. The action of the Executive Director of the Commission constitutes final agency action, and is appealable pursuant to the requirements of Chapter 120, F.S.

(15) Leasing Prohibited. The leasing of marine life endorsements is prohibited.

(16) Transferability. After the initial issuance, the marine life bycatch (MLB) and marine life transferable dive endorsements (MLD) are transferable upon approval of the Commission under the following conditions:

(a) A transferable marine life endorsement may be sold to an otherwise qualified buyer at fair market value upon approval by the Commission.

(b) The buyer must hold a saltwater products license with a valid restricted species endorsement and the seller must hold a transferable marine life tiered endorsement.

(c) The sale or transfer of a marine life transferable dive endorsement (MLD) will result in the forfeiture of the marine life transferable dive endorsement (MLD) on all other licenses held by the seller.

(d) An endorsement holder may elect to permanently forfeit a marine life bycatch endorsement (MLB), a marine life transferable dive endorsement (MLD), or a marine life non-transferable dive endorsement (MLN) to the Commission.

(e) A person who holds a valid marine life bycatch endorsement (MLB) cannot enter into a purchase agreement for a marine life transferable dive endorsement (MLD) until they sell or permanently forfeit the marine life bycatch endorsement (MLB) at the time of transfer.

(f) A marine life bycatch endorsement (MLB) may be transferred, to any person who holds a saltwater products license with a restricted species endorsement.

(g) A marine life transferable dive endorsement (MLD) may be transferred to any person who holds a saltwater products license with a restricted species endorsement.

(h) If the marine life transferable dive endorsement (MLD) has been applied to more than two saltwater products licenses as specified in paragraph (5)(b), only the initial MLD, which serves as an endorsement for no more than two saltwater products licenses, can be transferred. The sale of this portion of the endorsement will result in the forfeiture of the endorsement on all other licenses held by the seller.

(i) The marine life non-transferable dive (MLN) endorsement is not transferable except as specified in subsection (17).

(j) A person who wishes to transfer a tiered endorsement shall submit a notarized statement of intent, that has been signed by both parties to the transaction, hand delivered, or sent by certified mail, return receipt requested, to the Commission between May 1 and the end of February. Requests received by the Commission before May 1 or postmarked after the end of February of the current license year will not be processed. A transfer request must be received by the Commission within three days of the date of the notarized signature of the intended recipient. The statement of intent (Form DMF-SL4120 (2-11), Marine Life Endorsement Transfer Form, found online at: http://www.flrules.org/Gateway/reference.asp?No=Ref-00198), incorporated herein by reference) shall include the following information:

1. The name, address, and SPL number of seller;

2. The name, address, and SPL number of buyer; and

3. The selling price.

(k) A marine life tiered endorsement shall not be issued, transferred, or renewed until all license fees, surcharges, and any other outstanding fees, fines, or penalties owed to the Commission by either party to the transaction have been paid in full within the transfer period.

(l) Upon receipt of a marine life transferable dive endorsement (MLD), the transferee has 12 months from the date of purchase to produce trip tickets and document income from the sale of marine life as defined in Rule 68B-42.001, F.A.C., in order to renew the endorsement. Once renewed, this endorsement will be valid for three years from the date of documentation used to qualify, but

must still be renewed annually as required by subsection (10).

(17) In the event of the death or permanent disability of a person holding a marine life tiered endorsement, the endorsement may be transferred by the license holder or the executor of the estate to a member of his or her immediate family within 12 months of the date of death or disability only after the recipient pays any outstanding fees, fines, or penalties to the Commission in full.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 2-1-05, Amended 7-1-09, 5-1-11, 10-31-11.

68B-42.007 Gear Specifications and Prohibited Gear.

(1) The following types of gear shall be the only types allowed for the harvest of any tropical fish, whether from state waters or from federal Exclusive Economic Zone (EEZ) waters adjacent to state waters:

(a) Hand held net.

(b) Barrier net, with a total length not exceeding 60 feet, a depth not exceeding 8 feet at any point along the net, and a mesh size not exceeding 3/4 inch stretched mesh.

(c) Drop net, with a maximum dimension not exceeding 12 feet and a mesh size not exceeding 3/4 inch stretched mesh.

(d) Slurp gun.

(e) Quinaldine may be used for the harvest of tropical fish if the person using the chemical or possessing the chemical in or on the waters of the state meets each of the following conditions:

1. The person or corporation must hold a valid MLD or MLN endorsement.

2. The person also possesses and maintains aboard any vessel used in the harvest of tropical fish with quinaldine a special activity license authorizing the use of quinaldine, issued by the Fish and Wildlife Conservation Commission pursuant to Section 379.2421(6), F.S.

3. The quinaldine possessed or applied while in or on the waters of the state is in a diluted form of no more than 2% concentration in solution with seawater. Prior to dilution in seawater, quinaldine shall only be mixed with isopropyl alcohol or ethanol.

(f) A roller frame trawl operated by a person possessing a valid live bait shrimping license issued by the Fish and Wildlife Conservation Commission pursuant to Rule 68B-31.008, F.A.C. and Section 379.361, F.S., if such tropical fish are taken as an incidental bycatch of shrimp lawfully harvested with such trawl.

(g) A trawl meeting the following specifications used to collect live specimens of the dwarf seahorse, *Hippocampus zosterae*, if towed by a vessel no greater than 15 feet in length at no greater than idle speed:

1. The trawl opening shall be no larger than 12 inches by 48 inches.

2. The trawl shall weigh no more than 5 pounds wet when weighed out of the water.

(2) This rule shall not be construed to prohibit the use of any bag or container used solely for storing collected specimens or the use of a single blunt rod in conjunction with any allowable gear, which rod meets each of the following specifications:

(a) The rod shall be made of nonferrous metal, fiberglass, or wood.

(b) The rod shall be no longer than 36 inches and have a diameter no greater than 3/4 inch at any point.

(3) No person shall harvest in or from state waters any tropical fish by or with the use of any gear other than those types specified in subsection (1); provided, however, that tropical fish harvested as an incidental bycatch of other species lawfully harvested for commercial purposes with other types of gear shall not be deemed to be harvested in violation of this rule, if the quantity of tropical fish so harvested does not exceed the bag limits established in Rule 68B-42.005, F.A.C.

(4) A power tool may not be used to harvest or attempt to harvest octocorals from state waters or from federal EEZ waters adjacent to state waters.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 9-30-96, Formerly 46-42.007, Amended 7-1-09, 10-31-11.

68B-42.008 Live Rock: Harvest in State Waters Prohibited; Aquacultured Live Rock Harvest and Landing Allowed.

(1) No person shall harvest or possess for sale any live rock in or from state waters or land any live rock harvested in or from state waters, except as may be provided in subsection (3).

(2) No person shall sell, within the State of Florida, any live rock harvested in or from federal Exclusive Economic Zone (EEZ) waters adjacent to state waters unless such person possesses an Aquaculture Certificate issued by the Florida Department of

Agriculture and Consumer Services pursuant to Chapter 597, F.S., and a federal Live Rock Aquaculture Permit issued by the National Marine Fisheries Service under 50 C.F.R. Part 638.

(3) Subsection (1) shall not apply to:

(a) Any person possessing an Aquaculture Certificate issued by the Florida Department of Agriculture and Consumer Services pursuant to Chapter 597, F.S., harvesting and landing live rock cultured on state submerged lands leased from the State of Florida. Rock used for such culture shall be of a readily distinguishable geologic character from rock native to the area or be securely marked or tagged so as to differentiate the cultured rock from naturally occurring live rock. The rock shall be placed on leased submerged lands by the lease-holder or a person possessing written authorization from the lease-holder.

(b) Any person lawfully harvesting substrate as part of the harvest of octocorals or ornamental sponges pursuant to subsection 68B-42.005(5), paragraph 68B-42.006(3)(f), subsection 68B-42.005(7), or paragraph 68B-42.006(3)(n), F.A.C.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-1-92, Amended 10-18-93, 1-1-95, Formerly 46-42.008, Amended 6-1-99, 10-31-11.

68B-42.009 Prohibition on the Taking, Destruction, or Sale of Marine Corals Sea Fans, and Non-erect, Encrusting Octocorals; Exception.

(1) Except as provided in subsection (2), no person shall take, attempt to take, or otherwise destroy, or sell, or attempt to sell, any sea fan of the species *Gorgonia flabellum* or of the species *Gorgonia ventalina*, or any hard or stony coral (Order Scleractinia) or any fire coral (Genus *Millepora*). No person shall possess any such fresh, uncleaned, or uncured sea fan, hard or stony coral, or fire coral. No person shall harvest or possess any non-erect, encrusting species of the Subclass Octocorallia within or without state waters.

(2) Subsection (1) shall not apply to:

(a) Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting specifies of the Subclass Octocorallia legally harvested outside of state waters or federal Exclusive Economic Zone (EEZ) waters adjacent to state waters and entering Florida in interstate or international commerce. The burden shall be upon any person possessing such species to establish the chain of possession from the initial transaction after harvest, by appropriate receipt(s), bill(s) of sale, or bill(s) of lading, and any customs receipts, and to show that such species originated from a point outside the waters of the State of Florida or federal Exclusive Economic Zone (EEZ) adjacent to state waters and entered the state in interstate or international commerce. Failure to maintain such documentation or to promptly produce same at the request of any duly authorized law enforcement officer shall constitute a violation of this rule.

(b) Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting species of the Subclass Octocorallia harvested and possessed pursuant to the aquacultured live rock provisions of paragraph 68B-42.008(3)(a), F.A.C., Chapter 597, F.S., or pursuant to a Live Rock Aquaculture Permit issued by the National Marine Fisheries Service under 50 C.F.R. Section 622.41(a) and meeting the following requirements:

1. Persons possessing these species in or on the waters of the state shall also possess a state submerged lands lease for live rock aquaculture and an Aquaculture Certificate of Registration issued pursuant to Chapter 5L-3, F.A.C., or a federal Live Rock Aquaculture Permit and an Aquaculture Certificate of Registration issued pursuant to Chapter 5L-3, F.A.C. If the person possessing these species is not the person named in the documents required herein, then the person in such possession shall also possess written permission from the person so named to transport aquacultured live rock pursuant to this exception.

2. The nearest office of the Fish and Wildlife Conservation Commission, Division of Law Enforcement shall be notified at least 24 hours in advance of any transport in or on state waters of aquacultured live rock pursuant to this exception.

3. Persons possessing these species off the water shall maintain and produce upon the request of any duly authorized law enforcement officer sufficient documentation to establish the chain of possession from harvest on a state submerged land lease for live rock aquaculture or in adjacent Exclusive Economic Zone (EEZ) waters pursuant to a federal Live Rock Aquaculture Permit.

4. Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting species of the Subclass Octocorallia harvested pursuant to paragraph 68B-42.008(3)(a), F.A.C., shall remain attached to the cultured rock.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. Law Implemented Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. History–New 1-1-95, Amended 7-15-96, Formerly 46-42.009, Amended 7-1-09, 10-31-11.

A History of Florida's Management of the Dwarf Seahorse (*Hippocampus zosterae*)

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Photo courtesy: Dr. Heather Masonjones

Concern: The National Oceanic and Atmospheric Administration's Fisheries Service (NOAA Fisheries) received a petition from the Center for Biological Diversity (CBD) in 2011 to list the dwarf seahorse (*Hippocampus zosterae*) under the Endangered Species Act (ESA). The petition identified fishing pressure and habitat degradation as threats to dwarf seahorse populations. In 2012, NOAA Fisheries released its 90-day finding concluding that the petition provided enough information to warrant further consideration of possible listing. As required by federal law, NOAA Fisheries is now conducting a thorough status review for this species and the Florida Fish and Wildlife Conservation Commission (FWC) has provided all available data from FWC's Fish and Wildlife Research Institute's (FWRI) Fisheries-Dependent Monitoring (FDM) program and Fisheries-Independent Monitoring (FIM) program to assist with this review. Because of the significance of potential ESA listing, the FWC Division of Marine Fisheries Management (DMFM) developed this written document summarizing the FWC's management history for this species, FWC's available data for dwarf seahorse populations in Florida, and the impacts of management actions on dwarf seahorse harvest.

Natural History:

Range: The dwarf seahorse was first described in 1882 from Pensacola, Florida, and has been recorded from Bermuda, the Bahamas, Cuba, both coasts of Florida, and throughout the Gulf of Mexico. The distribution of the dwarf seahorse is restricted to tropical and subtropical/warm-temperate waters (Strawn 1958). A literature review provided by Dr. R.E. Matheson, FWC-FWRI, in 2012, indicated that no records of *H. zosterae* from outside of the range listed above were found, but research indicated that abundance varied greatly within this range. Dwarf seahorses have not been reported from Bermuda since the early 20th century, they have not been reported from the Bahamas since the 1950s, and there are very few records from Cuba. Because shallow water habitats in these areas have been relatively well-sampled with very few dwarf seahorses ever being reported, it is doubtful that any of these locations harbor, or have ever harbored, self-sustaining populations of this species. Also, in contrast to the lined seahorse, this does not seem to be a very mobile species and may well have been transported beyond continental North American waters on very few occasions. There are few records from Alabama, Mississippi, or Louisiana, and the total number of specimens from all of these records is low. Abundance in Mexico and Texas is somewhat greater than in all localities other than Florida, but few studies indicate large numbers of specimens. Abundance in Florida appears to be much higher than in other portions of the dwarf seahorse's range. Within Florida, relatively few specimens have been collected north of the Indian River Lagoon on the east coast and north and west of Cedar Key or the Big Bend region on the west coast. The highest numbers reported in any area within the range of this species are from south Florida, especially Florida Bay.

Habitat and Ecology: Dwarf seahorses are found in bay and estuarine seagrass habitats, ranging from one to four meters in depth, and primarily in association with submerged aquatic vegetation in moderate to high salinity estuarine waters (~ 29 ppt and higher) (Matheson et al. 1999); and are also found in floating vegetation (Lourie et al. 1999). Dwarf seahorse prey items include amphipods and copepods (Foster et al. 2004).

This species exhibits a pronounced association with seagrass habitats, which suggests that it may be susceptible to anthropogenic activities, such as dredging and bottom trawling for shrimp in these habitats. All seahorse species have specialized parental care, and many species studied to date have high site fidelity (Strawn 1953, Fedrizzi et al. 2015), relatively sparse distributions (Lourie *et al*. 1999), and

highly structured social behavior (Vincent and Sadler 1995). Genetic evidence also supports monogamy in the dwarf seahorse (Rose et al. 2014). The importance of life history parameters in determining response to exploitation has been demonstrated for a number of seahorse species (Jennings et al. 1998).

Size and Lifespan: Dwarf seahorse size ranges from 7 to 38 mm in length, while large specimens may reach 5 cm (Robbins et al. 1986). Lifespan of the dwarf seahorse is about one year (Strawn 1953, Vincent 1996, Foster & Vincent 2004), though they may live longer (Dunham et al., FWC-FWRI, manuscript in prep.).

Reproduction and Maturation: The dwarf seahorse courtship ritual involves four phases marked by distinct behavior changes and intensity and occurs over 3-4 days (Masonjones and Lewis 1996). The phases include side-by-side vibrating or quivering, showing bright and/or rapid color changes, head pointing, and repeatedly rising together in the water column (Masonjones and Lewis 1996). The female then transfers her eggs to the male's brood pouch. The male seals the pouch, fertilizes the eggs, and carries the embryos until giving birth to live young in about seven to 10 days (Foster et al. 2004). The brood pouch is highly vascularized and may provide developing embryos with gas exchange, osmoregulation, and waste removal during gestation (Masonjones and Lewis 2000). Breeding time and juvenile growth are closely associated with day length and regional water temperatures (Strawn 1958, Fedrizzi et al. 2005). During the summer months, males may produce one or more broods per month, each containing up to 55 offspring (Strawn 1958; Fedrizzi et al. 2005, Dunham et al., FWC-FWRI, manuscript in prep.). Newly expelled young are approximately 7-9 mm in length (Strawn 1958). Juveniles are fully independent with the capability to swim, cling to small bits of seagrass with their tails, and maintain an upright posture (Masonjones and Lewis 2000). Juvenile growth is rapid with individuals reaching reproductive maturity between two and three months of age and approximately 20 mm in length (Fedrizzi et al. 2005, Dunham et al., FWC-FWRI, manuscript in prep.).

Steep growth curves, short lifespans, low reproductive rates, and quick generation times may impact the dwarf seahorse's ability to respond to stressors, including environmental changes (Yaseu et al. 2015). Strawn (1958) indicated that the breeding season spans from March through October, but commercial collectors report that they encounter brooding males year-round in the Keys.

Population structure in Florida: Dwarf seahorses are poor swimmers and long-range dispersal is likely restricted to passive dispersal through rafting, which can occur as vegetative holdfasts break loose from the substrate and are carried by ocean currents (Masonjones et al., 2010, Fedrizzi et al. 2015). Fedrizzi and colleagues (2015) investigated the dwarf seahorse's population genetic structure at eight Florida locations: one in the Panhandle, two adjacent to Tampa Bay, four in the Keys, and one on the east coast, Indian River Lagoon. They found significant population structuring with strong evidence for a distinct population in the Panhandle (Pensacola), two recognizable populations in the Keys (Eastern Keys and West Coast), and a suggested fourth population (Big Pine Key). The East coast was examined, but not included as a separate population due to the small sample size and lack of consistency in relationship to the other populations. Further genetic and/or genomic studies that include the entire range of the dwarf seahorse is warranted.

Characterization of the Marine Life Fishery

The Marine Life fishery can be described in a number of ways, none of which fully captures its scope. The development of air freight service to formerly remote regions of the world combined with advances in aquarium technology have made the representation of the world's oceans possible. The Marine Life or tropical ornamental/aquarium trade industry is world-wide and facilitates scientific research, education, supplies the aquariums of individual collectors, and those exhibits which are very familiar to everyone (e.g., Sea World). These large aquaria play a vital role in educating millions of visitors and students about wild animals, their habitat, their related conservation issues, and the ways in which they can contribute to their preservation. Large aquaria, which are open to the public, exhibit far more than tropical reef fish and invertebrates. Collectors also target snapper, grouper, game fish, shark, even marine mammals and reptiles for live capture. Although several marine species are aquacultured, the vast majority of species are still obtained through wild capture.

The FWC and its predecessor, the Marine Fisheries Commission (MFC), have historically enjoyed a cooperative relationship with the commercial Marine Life fishery. Both MFC and FWC have worked closely with the Marine Life industry relying on dependable members of the industry as sources of invaluable information about the health of numerous species managed under this fishery. Several participants in Florida's fishery (which are now the endorsement holders) are highly educated and have master's degrees or Ph.D.'s in marine biology. The fishery, which targets dwarf seahorses along with hundreds of other ornamental species, provides a good example of government and industry working together to co-manage a fishery. Many of the regulations that are in place now were requested by members of the industry after wanting to protect these species for the future. The following section provides a historical perspective on the management of Florida's Marine Life fishery with a focus on the dwarf seahorse.

Management History

Ornamental fishes were collected in Florida for aquaria as early as 1935. Special legislative provisions to capture live animals for exhibit exist prior to 1953 (Sec. 370.10(2) Florida Statute), however, there was no published discussion of the fishery until a 1978 report (Hess and Stevely 1978). In 1988, out of concern for localized depletion of many species, notably large angelfishes, the Florida Marine Life Association (FMLA; the official industry representing Marine Life collectors) petitioned the MFC to adopt standards for the collection of tropical ornamental vertebrate and invertebrate species. In 1990, the MFC adopted the first Marine Life fishery regulations establishing size and bag limits for certain commercial and recreational Marine Life species. Additionally, the Florida Legislature adopted the requirement of an open-access Marine Life endorsement to the Saltwater Products License (SPL) in order to better understand who participated in the commercial fishery, along with a broad suite of commercial size limits and trip limits for a number of species. Over 600 species comprise Florida's Marine Life fishery. Many of these species do not have any formal stock assessments and will likely not ever have formal stock assessments. The complexity of the fishery is beyond the approaches of traditional fisheries management. Little is known about many of the species being harvested; this makes appropriate regulations difficult to implement. The subtle interrelationships of the reef ecosystem may also play a critical role in the health of these individual species. So judging the appropriate levels of standing stocks on a reef system is enormously complicated.

At the creation of the program, there were 150 Marine Life endorsements issued. By 1998, there were 727 participants holding a Marine Life endorsement, but only 27% of those participants were actually reporting landings. During that same time period (1990 to 1998), landings of some Marine Life species also increased dramatically. Due to the increase in fishery participants and landings, a moratorium on the issuance of Marine Life endorsements was adopted in 1998 by the Florida Legislature. In 2002, the Legislature extended the moratorium to June 30, 2005 and directed the FWC to establish a limited entry program for this fishery. The complexity of the fishery and the concomitant regulations make it difficult to gauge the effectiveness of traditional fishery management techniques. So limiting effort is an effective way to ensure long term conservation benefits. Staff and the industry continued to work together to improve management following the creation of the limited-entry program. Currently, there are 152 Marine Life endorsement holders. The number of endorsements cannot increase over time and many of the endorsements are non-transferable, thus continually reducing the number of participants in the fishery. In regard to seahorses, the 5-year (2010-2014) average number of endorsement holders collecting dwarf seahorses is 17 with approximately 5-6 collectors specializing in the dwarf seahorse.

Following the limited-entry endorsement program, an *ad hoc* Marine Life Workgroup (Workgroup) was formed in 2005 to re-examine the species listed in rule that require the Marine Life endorsement for commercial harvest. The Workgroup comprised 13 members that represented the diversity of the Marine Life fishery, including 10 members of the industry, 1 representative from the Florida Keys National Marine Sanctuary, 1 member of the Aquaculture Review Council, and 1 non-governmental representative from R.E.E.F. Recommendations for rule changes were made by the Workgroup to staff in July 2008. These recommendations were taken to public workshops and then staff reviewed the recommendations and presented a suite of management options to the Commission in December 2008. Rule changes were adopted in February 2009 and became effective July 1, 2009, including a daily commercial bag limit of 400 dwarf seahorses per person or per vessel, whichever is less. This daily commercial bag limit was established in close coordination with the Marine Life industry and was based on an analysis of fishery trends and stakeholder concerns regarding the curio trade. This regulation effectively reduced the harvest of dwarf seahorses by 60% relative to the pre-2010 data used in CBD's petition and curio trade participation.

The commercial Marine Life fishery is also unique in that it tends to be order driven. Unlike traditional food fisheries, Marine Life collectors will often wait until they have an order from a wholesaler or retailer before collecting. This ensures that they have a market and minimizes storage needs for their live product. It also means that the harvester typically has a specific number and suite of species he or she is targeting on a given trip. Individual harvesters tend to specialize on certain species or types of Marine Life organisms.

Current Regulations: Recreational harvesters are required to have a saltwater fishing license to collect Marine Life species and are limited to five of each species per person per day, which is included in a 20-organism per day Marine Life aggregate bag limit. In order to maintain collected organisms in a healthy condition, recreational harvesters are limited to the use of hand held nets, barrier nets, drop nets, slurp guns, storage bags, and rods to harvest dwarf seahorses. Additionally, all Marine Life organisms must be landed alive.

Commercial harvesters are required to have a Saltwater Products License (SPL) with a Restricted Species (RS) endorsement and a Marine Life (ML) endorsement. The commercial Marine Life fishery, as mentioned above, is a limited entry fishery; new participants may only enter the fishery by acquiring an endorsement that is eligible for transfer from a participant leaving the fishery. Commercial harvesters are limited to 400 dwarf seahorses per person or per vessel per day, whichever is less. However, commercial harvesters that take dwarf seahorses as incidental bycatch in another fishery, using gear not authorized for use in the Marine Life fishery are limited to the daily recreational bag limit of five. In addition to being limited to the recreational bag limits for Marine Life species, these fishers must hold a Marine Life Bycatch endorsement and handle any Marine Life organisms collected in the same manner required of harvesters directly targeting Marine Life species. Additionally, the fishing gear types authorized for use by recreational collectors and commercial fishers targeting dwarf seahorses under the proper endorsement may use a seahorse trawl for harvest. This trawl may not have an opening larger than 12 inches by 48 inches, may not weigh more than five pounds wet, and may be towed by a vessel no greater than 15 feet in length at no greater than idle speed. Roller frame trawls may only be used to collect dwarf seahorses or other Marine Life species by endorsement holders that hold a valid live bait shrimping license. Additionally, as is the case in the recreational fishery, all Marine Life organisms must be landed alive.

There is no federal management plan for the vast majority of Marine Life species. FWC regulations extend into federal waters for Marine Life species.

Harvest of all Marine Life species, including seahorses, is prohibited from a large portion of their habitat in the Florida Keys and other parts of south Florida, because of a series of Marine Life sanctuaries in the heart of the dwarf seahorse's primary habitat (Figure 1). Harvest is prohibited within Biscayne National Park (BNP), the Dry Tortugas National Park (DRTO), and Everglades National Park (ENP), which includes the majority of Florida Bay. Additionally, harvest is prohibited from Ecological Reserves, Sanctuary Preservation Areas, and Special-use Research Only areas within the Florida Keys National Marine Sanctuary. FWC also prohibits harvest of most Marine Life species, including all seahorses, from John Pennekamp Coral Reef State Park in the Upper Keys.

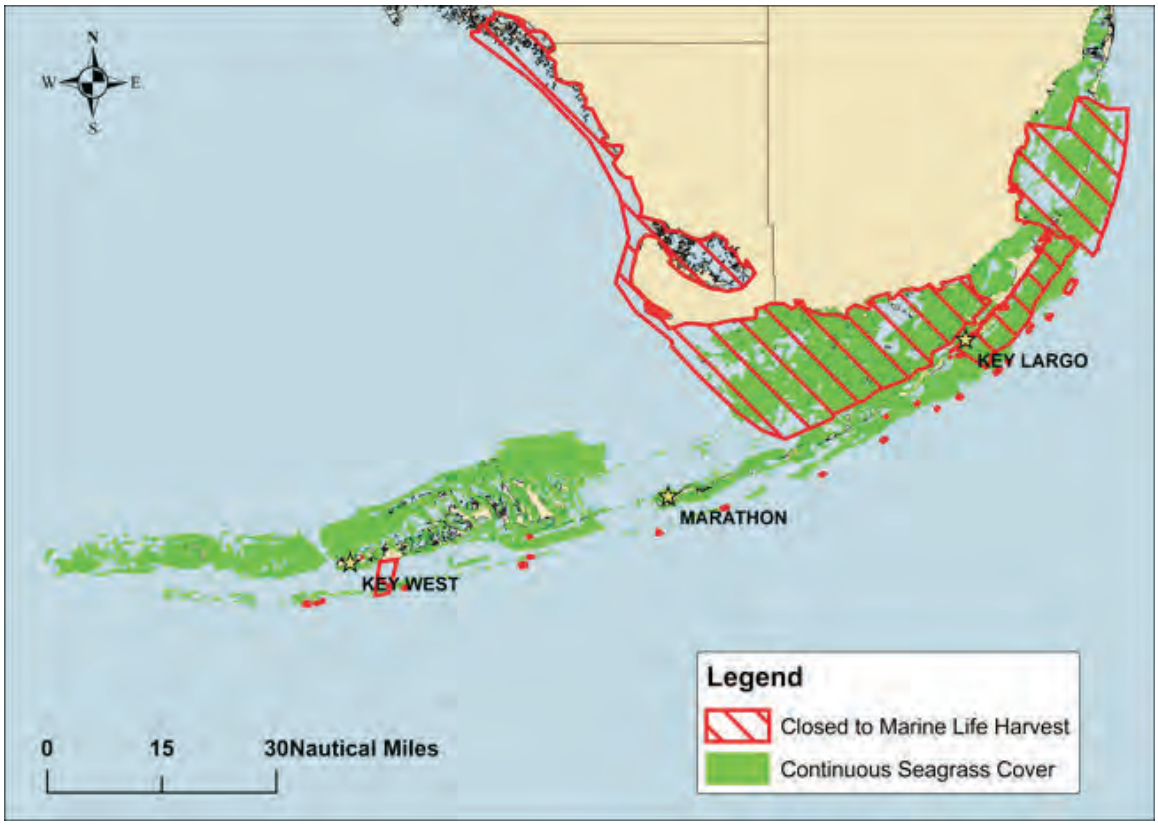

Figure 1: Map of areas in south Florida closed to Marine Life harvest.

Additionally, areas of Wakulla, Jefferson, Taylor, Dixie, Levy, Citrus, Hernando, and Pasco Counties, collectively known as the Big Bend Region and to shrimp fishers as the "nursery line" are closed to shrimp harvest from July 1 through August 31 of each year (Figure 2). This nearshore area begins at Bailey's Bluff in Pasco County and continues to the St. Marks Lighthouse in Wakulla County and comprises sensitive shallow seagrass habitats, roughly 28% of coastal seagrass cover, which are nursery grounds for shrimp and other fish (Yarbro and Carlson 2013). These closed areas are believed to be capable of supporting seahorses. Thus, existing area closures along the west coast of Florida and in south Florida in seagrass habitat will ensure dwarf seahorses have areas of quality habitat throughout their Florida range where they are free from harvest pressure.

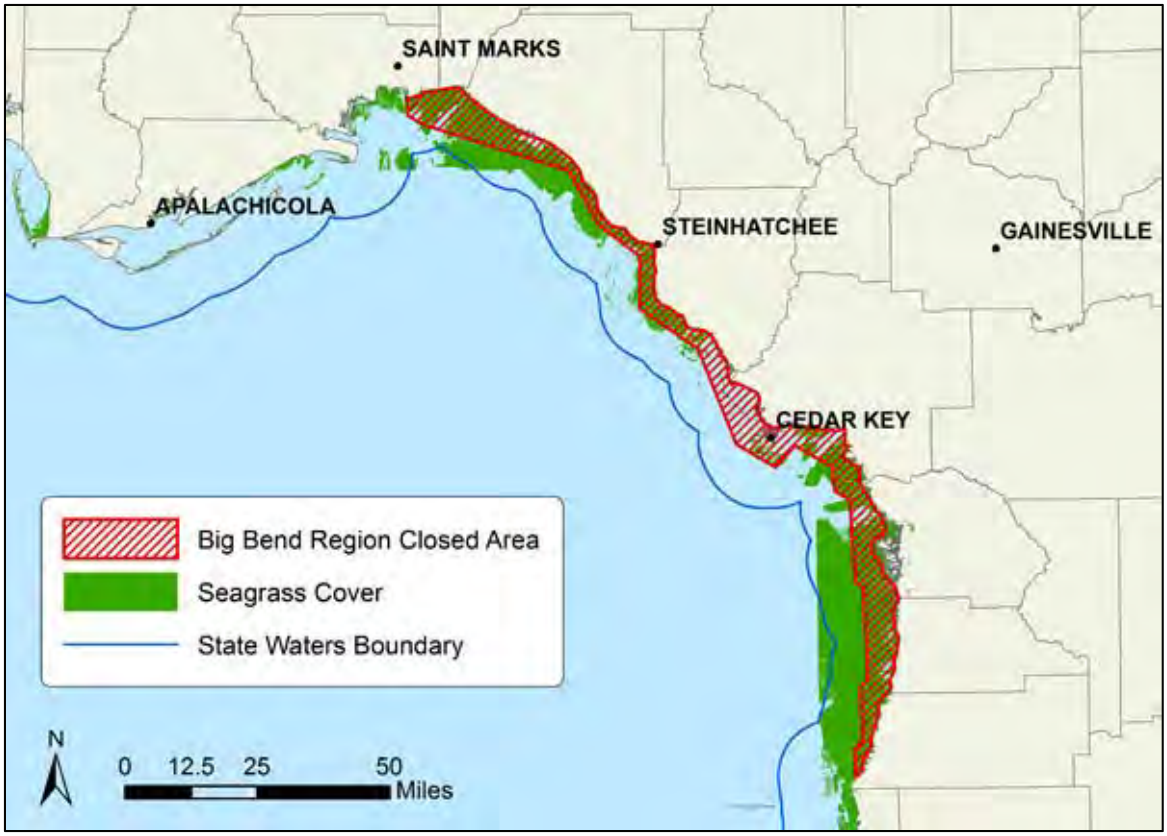

Figure 2: Map of Big Bend region closed to harvest.

Available Data

Fisheries-Dependent Data

An examination of FDM's database was conducted for commercial dwarf seahorse harvest from 1990-2014 (Figure 3). The annual reported harvest and catch per unit effort (numbers of dwarf seahorses per trip) varied throughout the calendar years, likely due to fluctuations in harvester participation and consumer demand (Figures 3, 4). The dwarf seahorse fishery is an efficient fishery with harvesters generally making collections only after they have received orders from consumers. As indicated by trip tickets, the wholesale dealers reporting most of the harvest were generally located in the area between Fort Myers and Tampa Bay on the west coast of Florida (Figure 5). However, this may or may not mean that most of the harvest occurred in that area because the seahorses could have been harvested elsewhere and landed in the dealer's county.

As of the end of the 2014 calendar year, the 25-year average reported statewide commercial harvest was 38,563 individuals with a maximum annual harvest of 98,779 during that same period. The 10-year average commercial harvest was 27,049 individuals with a 10-year maximum harvest of 70,808. The 5-year average commercial harvest was 17,055 individuals with a 5-year maximum harvest of 25,816. In the 20 years prior to the development of the current regulations (1990 – 2009), commercial harvest of dwarf seahorses averaged approximately 44,000 individuals per year. In the five years since a trip limit was adopted (2010–2014), average annual harvest has been reduced to approximately 17,000

individuals per year, a reduction in annual harvest of approximately 60% per year. The majority of landings occurred between Tampa Bay and Miami (Figure 4).

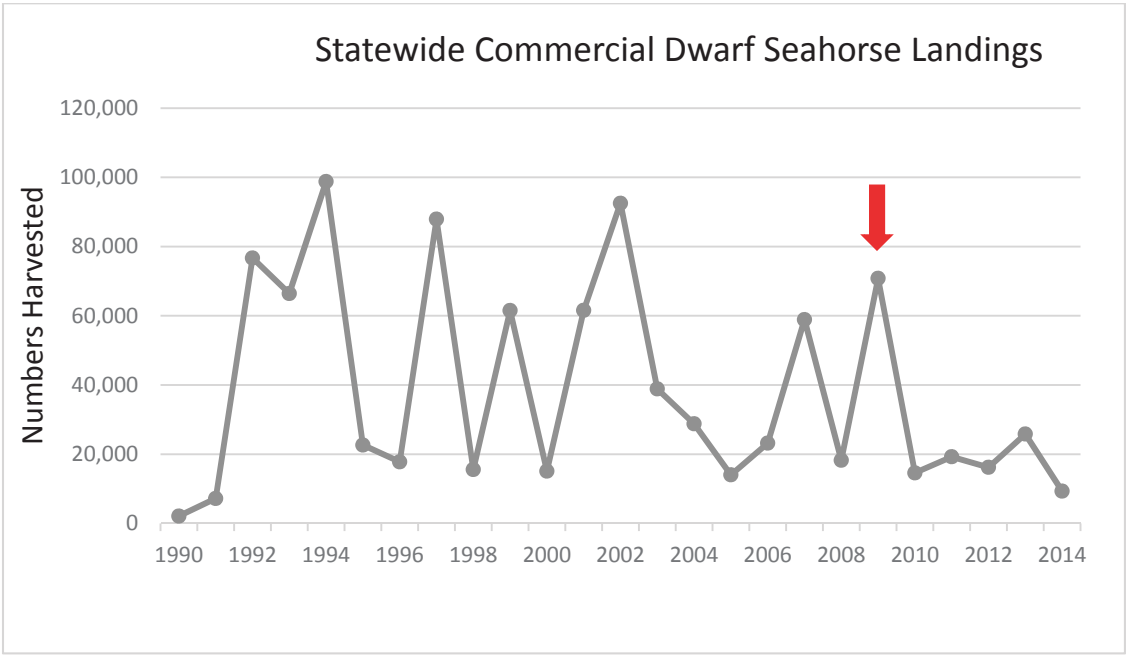

Figure 3. 1990-2014 Statewide Commercial Dwarf Seahorse Landings (numbers harvested). Arrow indicates the year in which a bag limit was implemented.

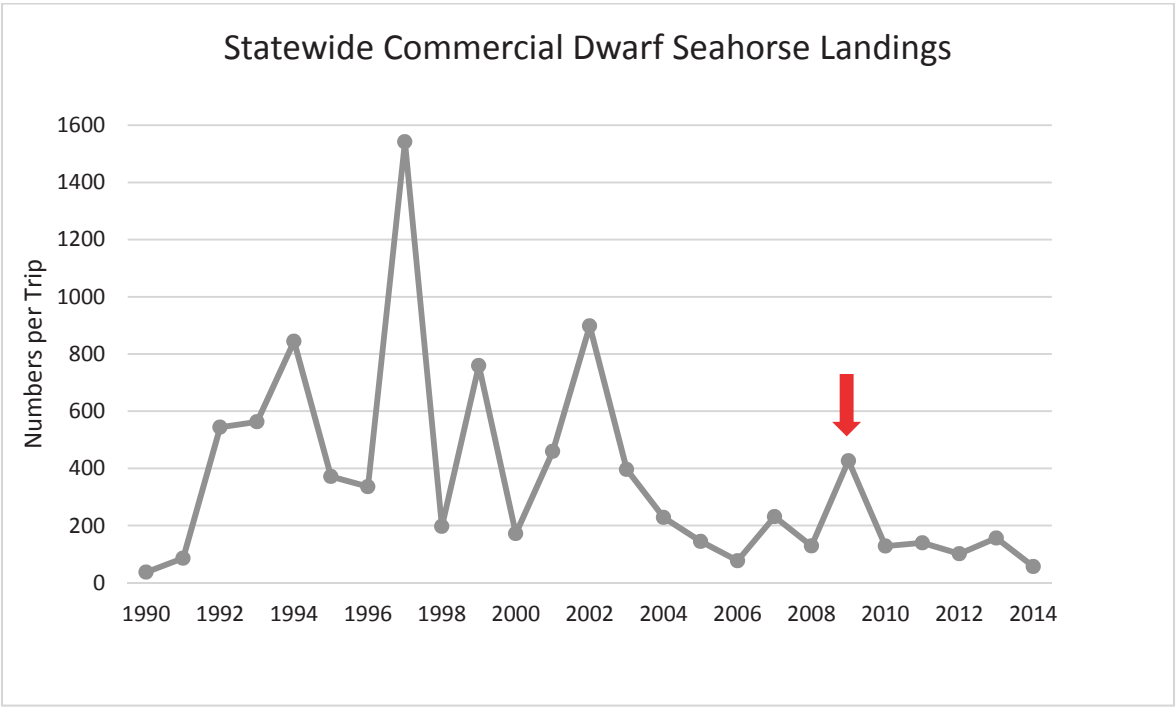

Figure 4. 1990-2014 Statewide Commercial Dwarf Seahorse Landings (numbers of dwarf seahorses per trip). Arrow indicates the year in which a bag limit was implemented.

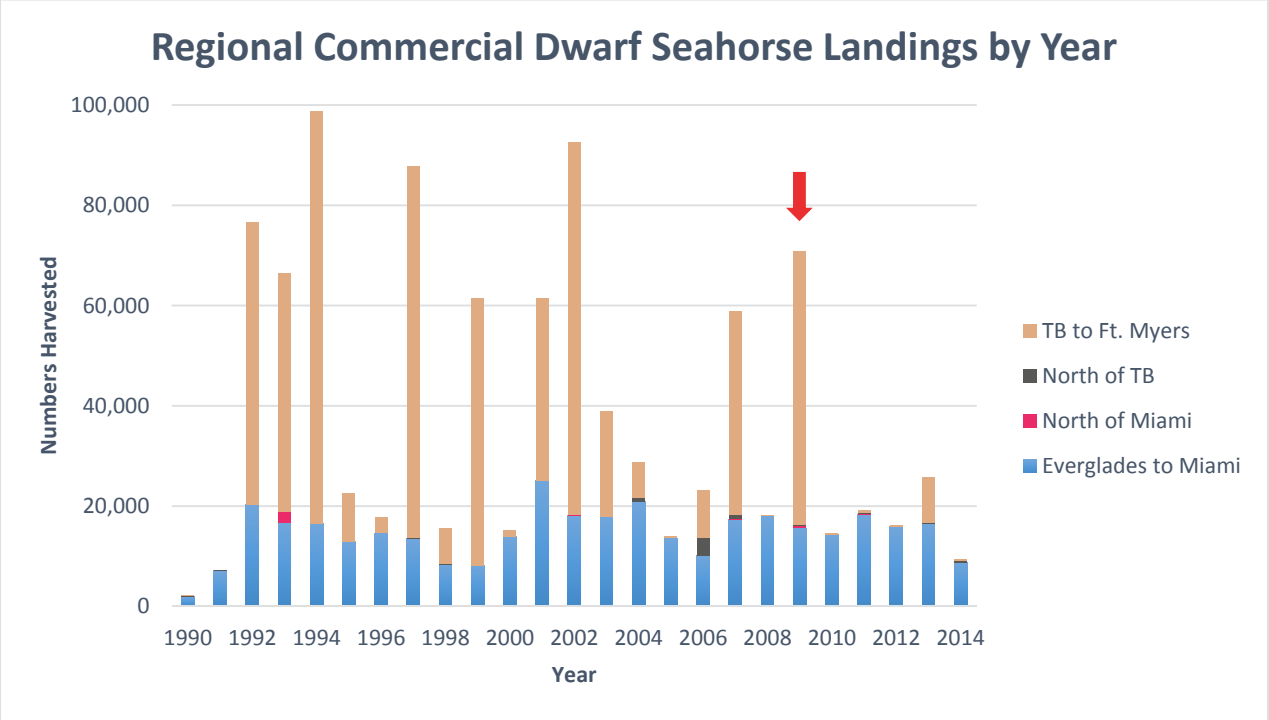

Figure 5. 1990-2014 Regional Commercial Dwarf Seahorse Landings (numbers of dwarf seahorses). Arrow indicates the year in which a bag limit was implemented. TB = Tampa Bay.

Fisheries-Independent Data

The FIM program monitors the relative abundance of fishery resources in Florida's major estuarine, coastal, and reef systems (Figure 6). FIM uses a stratified-random sampling (SRS) design, an approach which distributes sampling effort among habitat types and directs greater sampling effort into habitats with higher variability in catches in an effort to reduce variability in the data. With the SRS design, FIM divides each estuary to be surveyed into zones based on hydrological and logistical characteristics. The different habitat types (for example: depth, seagrass beds, shore type) available within each zone are then identified as strata. FIM conducts monthly sampling at sites randomly selected from the strata available within each zone annually. A variety of techniques and sampling gear types are used by FIM to ensure that the wide range of species, sizes, and ages necessary for stock management are sampled during each monthly survey. Smaller fishes are collected with both a 21.3-m seine and a 6.1-m otter trawl. FIM uses the 21.3-m seine (3.2-mm mesh) in water depths of 1.8 meters or less, while the trawl typically samples water depths of 1.8 meters or greater. Larger sub-adult and adult fishes are collected using 183-m haul (38-mm stretch mesh) seines in water depth of 3.0 meters or less. The two seine types sample shoreline habitats and open bay areas with both seagrass and non-vegetated bottom habitats. The trawl is typically deployed in deeper, open water habitats but is also deployed over deeper seagrass habitats. The entire suite of gear types and methods used by FIM captures fishes at various stages of development, from initial recruitment into the estuary through

harvestable sizes, thereby providing a continuous gauge of a particular stock's relative abundance, age and size composition, and reproductive potential. However, the gear types used are not specifically designed to target dwarf seahorses.

Samples collected in Florida Bay were collected using a seasonal (April, June, August, and October) stratified-random sampling design, which included the use of the 21.3-m seine and the 6.1-m otter trawl. Data from these gear types were used to create length frequencies of *H. zosterae*, by regions in order to assess spatial distribution by size.

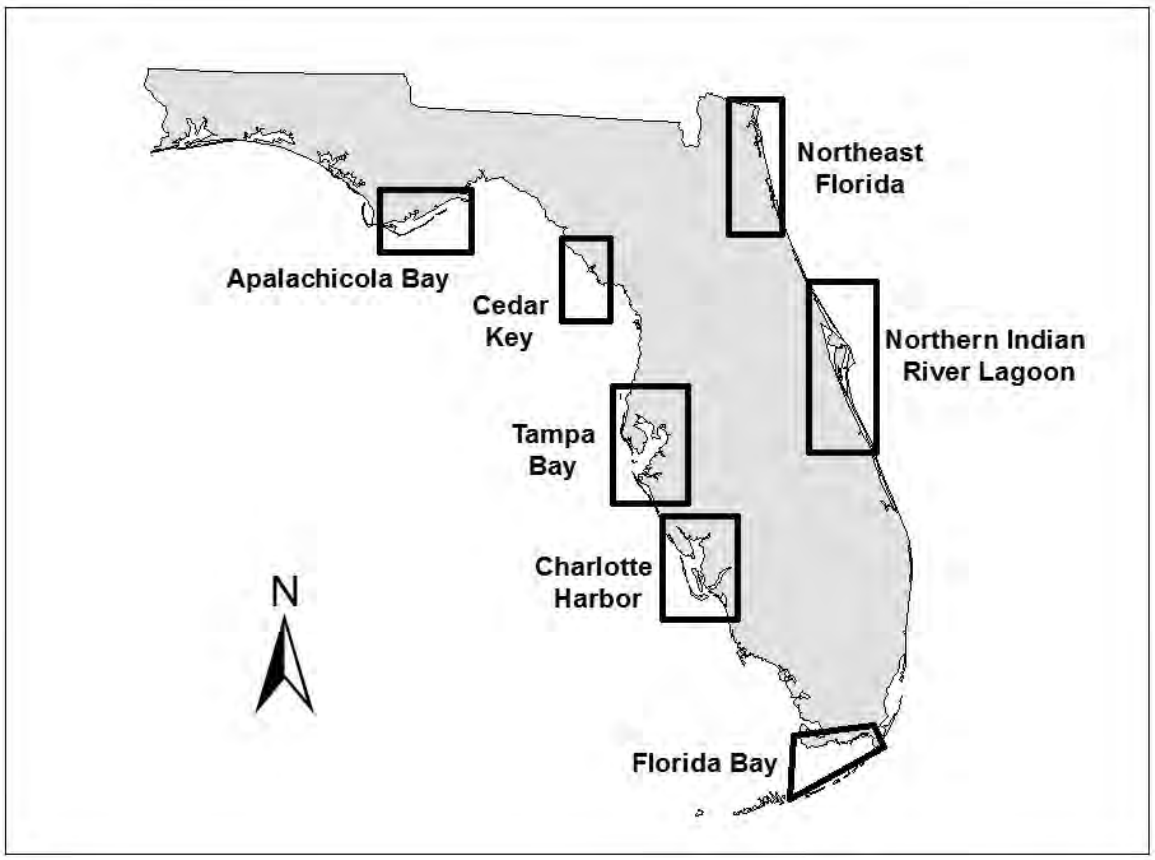

Figure 6: Locations of Fisheries-Independent Monitoring program field laboratories and study areas.

Spatial Distribution: *H. zosterae*, were collected from Cedar Key, Tampa Bay, Charlotte Harbor, Florida Bay, and Northern Indian River Lagoon. The greatest total catches (500 or more individuals) were in Charlotte Harbor and Tampa Bay on the Gulf coast and Florida Bay (Figures 7, 8). This temperature limited species was found in the greatest abundance in Florida Bay (Figure 8).

Length Frequency Trends: Length frequency distribution suggests adult abundance, those individuals near or at 20 mm in length. Age of maturity begins around 20 mm and is found in abundance from October to March in each study area (Figures 9-12). Spawning season appears to vary among the estuaries, however, based on the length frequency data, it seems that reproduction may occur during most of the year. The Florida Bay (Figure 12) region had the highest abundance of *H. zosterae* with a peak spawning season in June.

Summary: FIM surveys are not designed to specifically target dwarf seahorses in their sampling, therefore FIM data should be interpreted with caution in regard to dwarf seahorses. However, with that in mind, FIM data for Florida estuaries support the idea that dwarf seahorses are most abundant in the southern half of the Florida peninsula, especially Florida Bay. Historical data also indicate much greater abundance of this species in Florida Bay, Charlotte Harbor, and Tampa Bay than in other parts of the state, which may be correlated to the high percentage (~66%) of coastal seagrass cover in southwest and south Florida (Yarbro and Carlson 2013). Data through 2014 for Tampa Bay and Charlotte Harbor indicate variable catch rates from 1996 through 2005 or 2006 but consistently low catch rates were noted from 2007 through 2014. Catch rates in Northern Indian River Lagoon declined to 0 in 2011, probably in association with a widespread loss of seagrass and drift algae in this area. Data for Florida Bay indicate very high abundances of dwarf seahorses relative to other sampling locations from 2006 through 2009, when the most recent study in this area ended. While the apparently natural seagrass die-off in Florida Bay in the late 1980s and early 1990s likely affected dwarf seahorse populations in some parts of the bay, the seagrass recovered from that event (Yarbro and Carlson 2013), and the areas sampled by the FIM program from 2006 through 2009 exhibited higher abundances than other locations, suggesting the overall population size is likely still large in that region. An additional note regarding Florida Bay, although the general status of seagrasses is considered fairly stable and seagrass cover has remained remarkably stable over the past 25 years, unusually hot and dry conditions in summer 2015 resulted in high-salinity, anoxic bottom water, and high concentrations of sulfide in sediment porewaters, which in turn lead to seagrass die-off in two basins, Rankin Lake and Johnson Key Basin (Yarbro and Carlson 2013; updated 11/2015). The extent of the die-off and assessment of the potential for further losses are under investigation (Yarbro and Carlson 2013; updated 11/2015).

In general, abundances of *H. zosterae* remained at stable levels over the time series available for each estuary (Figures 7, 8), with peak abundances occurring in different years in different estuaries. Most abundance trends at the end of the time series in 2014 were similar to long-term averages, except for Florida Bay (sampling ended in 2009) and decreasing abundances in the Northern Indian River Lagoon. The species has not shown much of an increase in numbers captured by the FIM program in that region since the seagrass die-off in 2011.

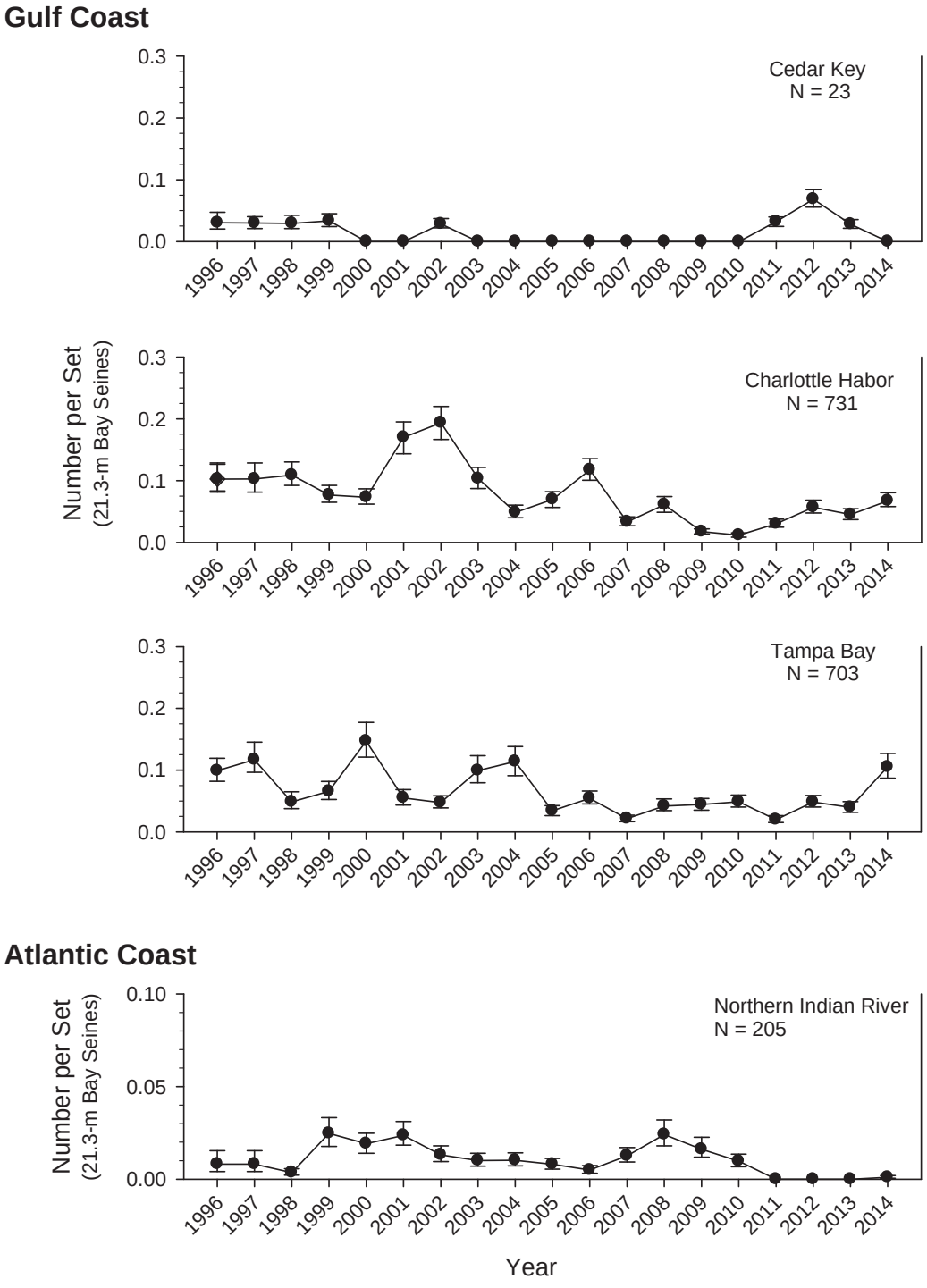

Figure 7: Long-term indices of abundance (IOAs) of *H. zosterae* from 1996 to 2014 in four estuarine systems in Florida. Data collected using 21.3-m bay seines. Note the change in axis for the Northern Indian River Lagoon sampling area.

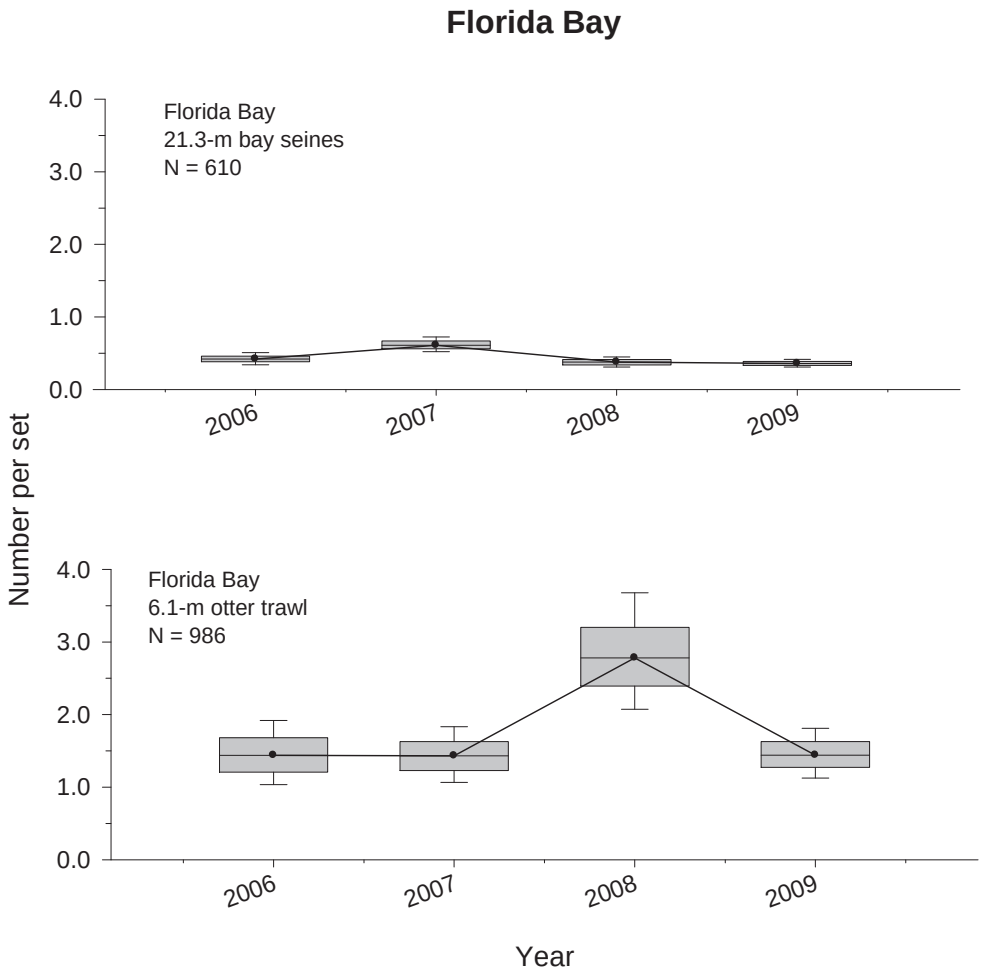

Figure 8: Seasonal (April, June, August, and October) indices of abundance (IOAs) of *H. zosterae* from 2006 to 2009 in from Florida Bay. The top portion of the figure are data collected using 21.3- m bay seines and the lower portion of the figure are data collected using 6.1-m otter trawl.

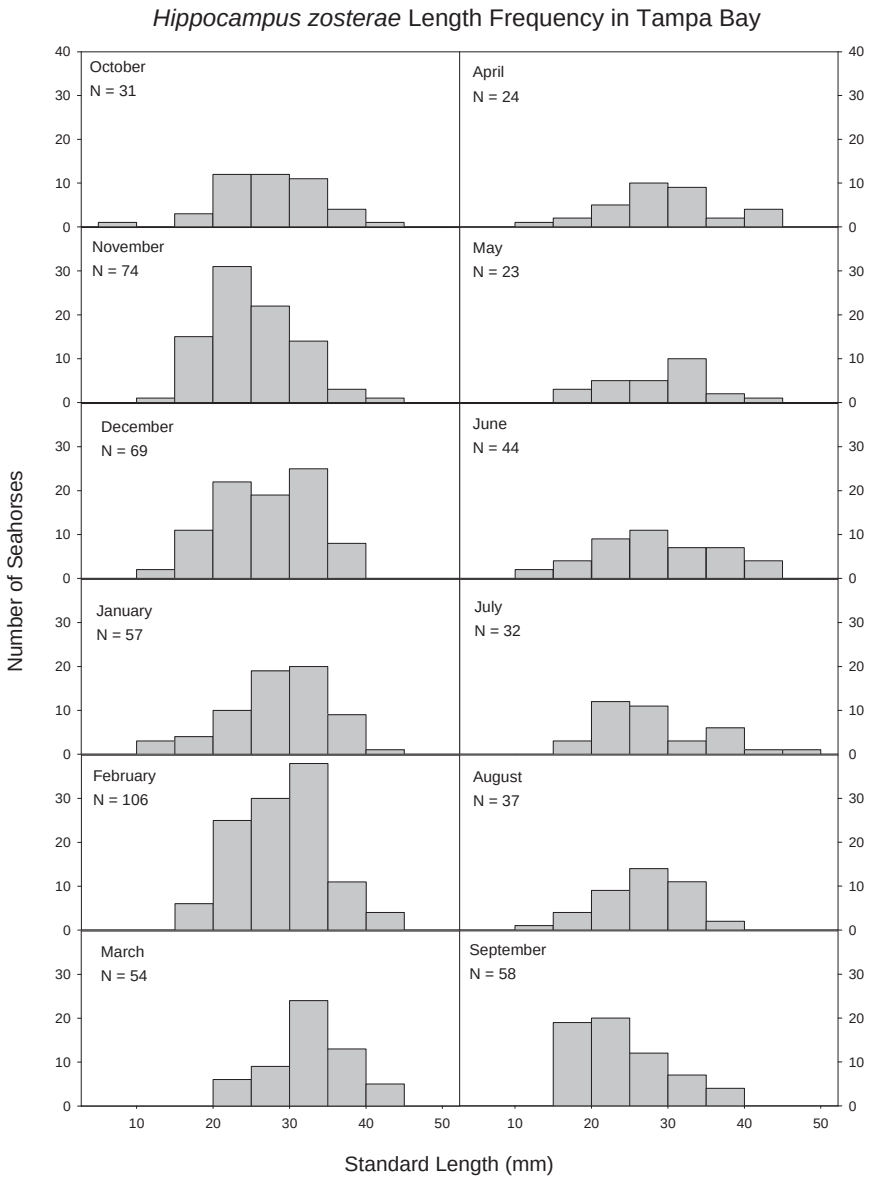

Figure 9: Length frequency distribution of *H. zosterae* collected by month from 1996 to 2014 in the Tampa Bay in Florida. Data collected using the 21.3-m bay seines.

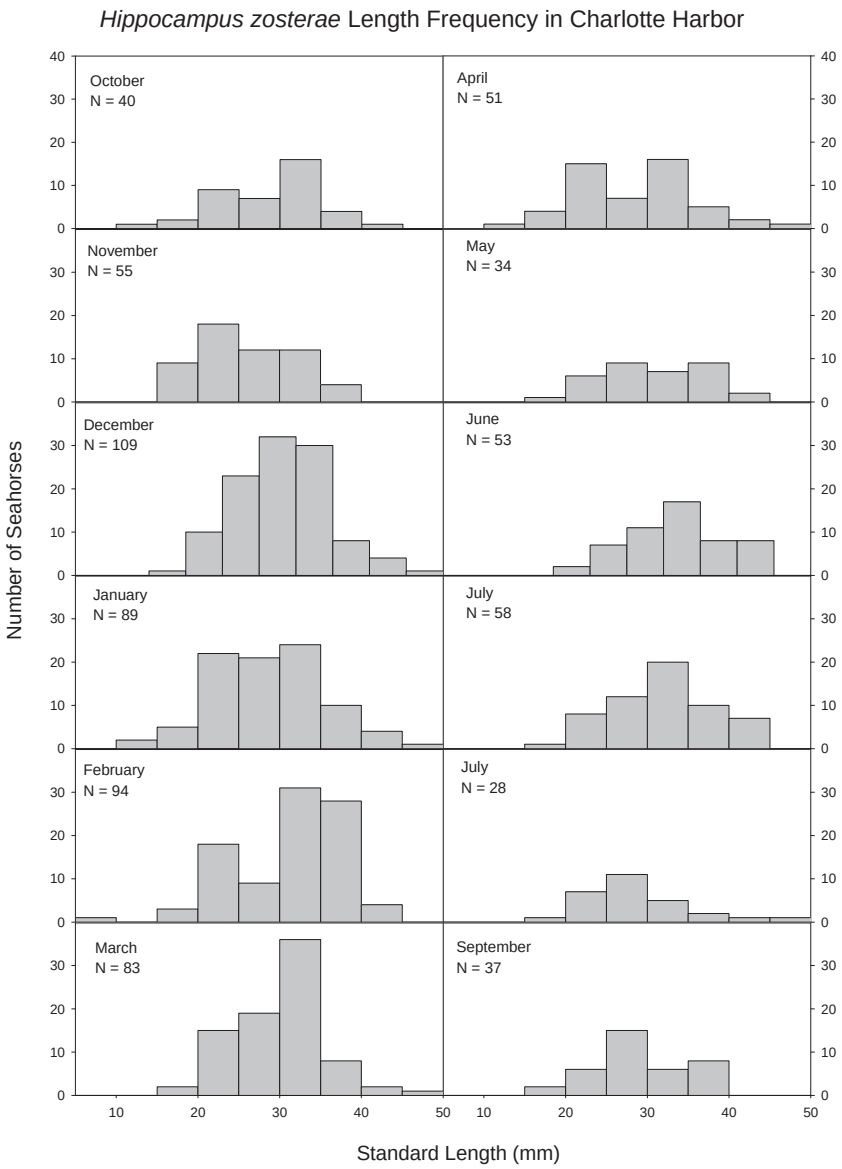

Figure 10: Length frequency distribution of *H. zosterae* collected by month from 1996 to 2014 in the Charlotte Harbor in Florida. Data collected using the 21.3-m bay seines.

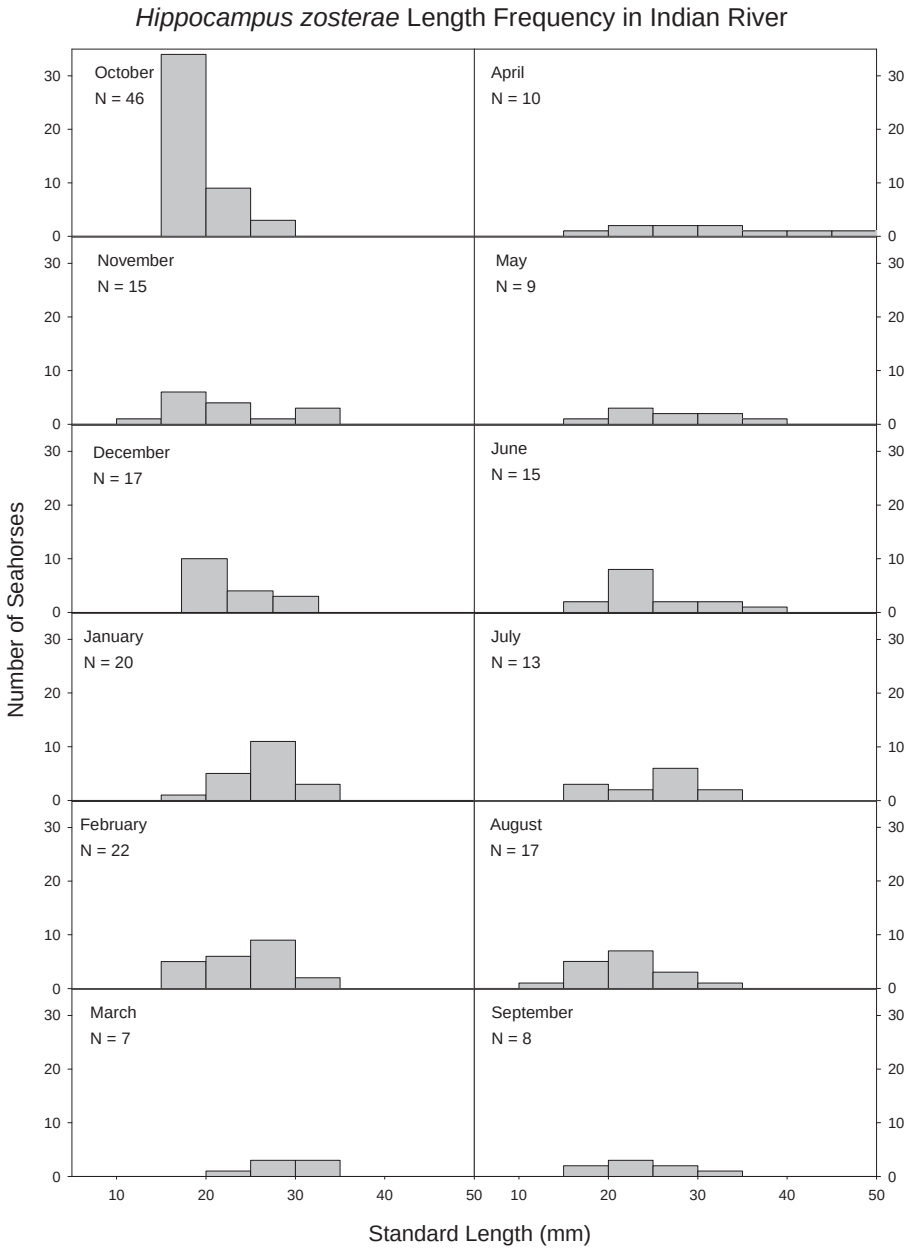

Figure 11: Length frequency distribution of *H. zosterae* collected by month from 1996 to 2014 in the Northern Indian River Lagoon in Florida. Data collected using the 21.3-m bay seines.

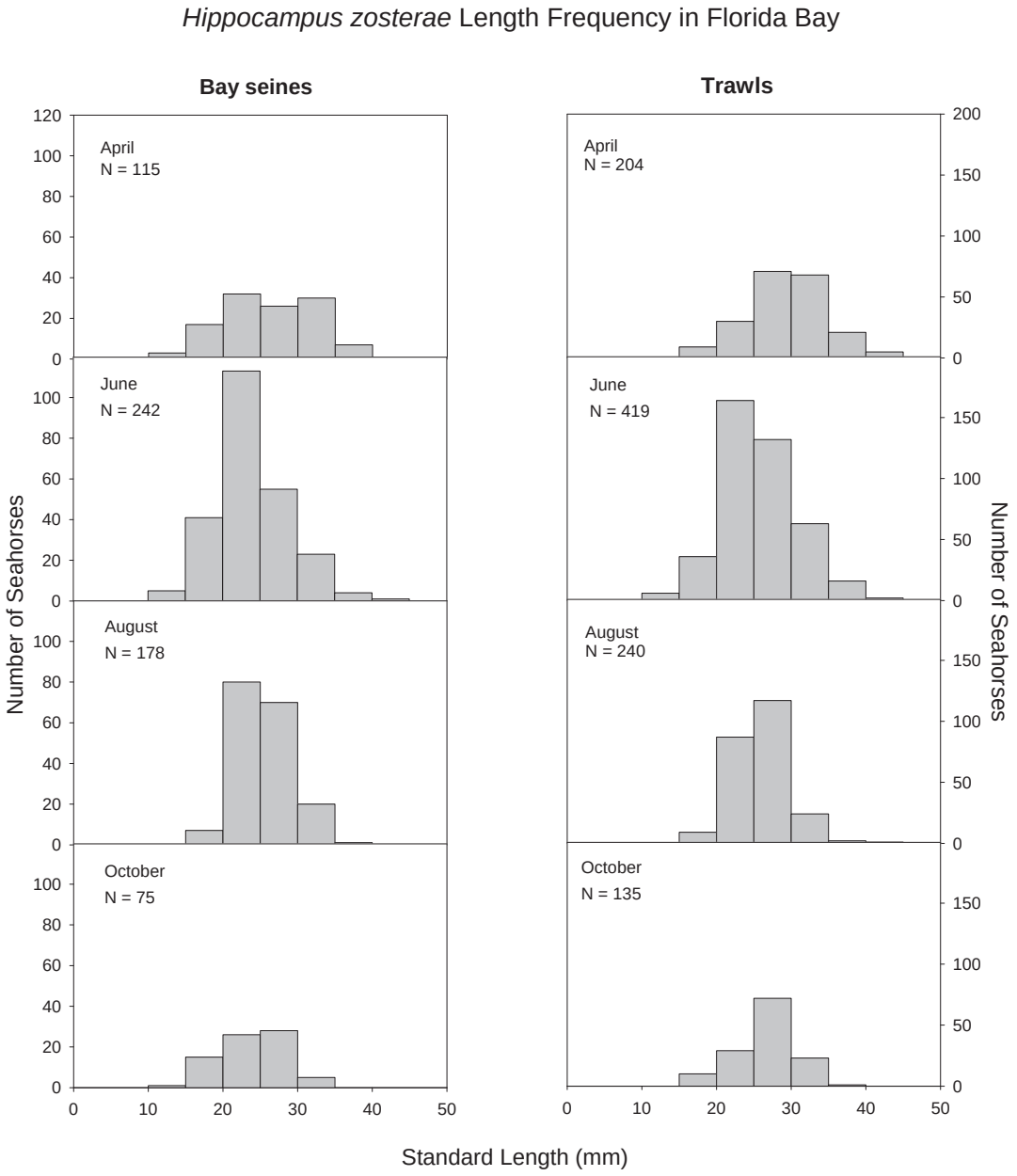

Figure 12: Seasonal length frequency distribution of *Hippocampus zosterae* collected by month from 2006 to 2009 from Florida Bay. Data collected using the 21.3-m bay seine and the 6.1-m otter trawl.

Commission Consideration of Proposed Regulatory Changes

While the Marine Life industry and the FWC, working together as co-managers of the Marine Life fishery, have already substantially reduced commercial harvest of this species, staff explored the possibility of additional management measures in light of the 2011 ESA listing petition. FWC staff worked with industry participants to determine what regulatory changes could be used to further reduce harvest and further ensure the stability and sustainability of Florida's dwarf seahorse populations.

Over two separate FWC Commission meetings in November 2015 and February 2016, staff presented the Commission with possible regulatory changes. These changes included a reduction in commercial and recreational bag/trip limits, a harvest closure in the northern portions of the state, a seasonal closure, and a commercial quota.

After hearing the information, the Commission thoroughly considered the data and noted a lack of evidence to warrant further restrictions at this time. Some points of note from these meetings include: Jaclyn Lopez, a representative of the Center for Biological Diversity (CBD; the group who petitioned NOAA to list this species under the ESA), provided public testimony and while supportive of FWC's regulatory efforts, stated that the efforts may not be enough to keep this species from being listed. Ms. Lopez further stated that the ESA petition was submitted due to scientific studies that suggested the Deep Water Horizon oil spill and cleanup efforts would impact dwarf seahorse habitat within reach of the spill (northern and west coast Florida; the Panhandle region comprises 1.8% seagrass cover and the Big Bend to Springs region comprises 28.4% seagrass cover (Yarbro and Carlson 2013)). Jeff Turner, President of the FMLA, appreciated CBD's clarification regarding concern for this species in the Panhandle region and noted that in south Florida where dwarf seahorses are mainly collected [with roughly 60% seagrass cover (Yarbro and Carlson 2013)], there are no problems with the fishery, especially with the existing closed areas and few collectors participating.

Final Thoughts

The original ESA petition was filed in 2011 and states the following:

"The harvest of live dwarf seahorses from Florida for the aquarium trade ranges from 2,000 to nearly 100,000 individuals per year, and averages 49,000 individuals per year...Florida also has a substantial trade in dried seahorses for the curio trade, and most of the seahorses harvested in Florida may enter the curio market (Bruckner et al. 2005)."

This information is now clearly outdated and does not accurately reflect the current status of the fishery or current harvest rates under the management measures that were adopted in the years following the publication of the cited paper (2005), and before or since the filing of the petition (2011). The petition cites an average annual harvest rate of 49,000 individuals for the live trade, plus an unknown, but potentially larger number for the curio trade. Using the petitioner's numbers, the current regulations including the commercial license requirements and the 400-per-trip limit have reduced the total (live + curio) average annual commercial harvest of dwarf seahorses to approximately 1/3 the harvest taken for the live trade alone during the period of time quoted by the petitioners.

In conclusion, FWC believes dwarf seahorses are already receiving significant protections under current regulations. FWC's robust management system has significantly reduced harvest, limited the number of participants in the fishery, and provided added protections with no trawling zones in areas of seagrass capable of supporting seahorses. Moreover, areas with the most robust populations of seahorses are already closed to seahorse and/or Marine Life harvest. Furthermore, there were no impacts from the Deep Water Horizon oil spill in areas where seahorses are most abundant. And while the available habitat may be fluctuating, it is not decreasing at an alarming rate. Finally, available data do not support the supposition that dwarf seahorse populations have experienced significant declines.

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July 25, 2014

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Dr. Rosemarie Gnam
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United States Department of Interior
Fish and Wildlife Service
Washington, D.C. 20240

RE: Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), Appendix II, review of the lined seahorse (*Hippocampus erectus*).

Dear Dr. Gnam:

The Division of Marine Fisheries Management of the Florida Fish and Wildlife Conservation Commission (FWC) coordinated agency consideration of the request for biological status and trade information for the lined seahorse (*H. erectus*), and provides the following information to assist the U.S. Fish and Wildlife Service (USFWS) with their review.

Background

The USFWS is conducting a biological status and trade review of the lined seahorse to fulfill U.S. obligations as a signatory country to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). USFWS is soliciting information regarding the biological status and trade of the lined seahorse, an Appendix II listed species, to determine if trade is occurring in compliance with CITES requirements.

Florida's Marine Life Fishery and Lined Seahorse Regulations

In Florida, the lined seahorse is regulated by the FWC as a "marine life" species pursuant to the FWC Marine Life rule, Chapter 68B-42, Florida Administrative Code (Enclosure 1). Additional licensing provisions are located in 379.361(2)(j), Florida Statutes (Enclosure 2). Combined, these regulations govern the recreational and commercial tropical ornamental marine life fishery. The FWC has extended the Marine Life rule into the federal Exclusive Economic Zone (EEZ) adjacent to Florida state waters pursuant to the Magnuson-Stevens Fishery Conservation and Management Act, and as such, lined seahorse-specific provisions in the Marine Life rule apply in both state waters of Florida and the federal EEZ waters adjacent to Florida.

Recreational harvesters are required to have a recreational saltwater fishing license to harvest lined seahorses and are limited to five lined seahorses per person per day, which is included in a 20-organism per day aggregate bag limit for all marine life species. A maximum possession limit of 40 marine life organisms applies to recreational harvesters once the seahorses and other marine life species are landed.

A valid commercial saltwater products license, with valid restricted species and marine life (ML) endorsements, is required to commercially harvest or sell marine life species, including lined seahorses. There are three types of marine life endorsements: Marine Life Transferable Dive (MLD), Marine Life Non-Transferable Dive (MLN), and Marine

Life Bycatch (MLB). The commercial marine life fishery is a limited entry fishery; new participants may only enter the fishery by acquiring a transferable ML endorsement (MLD or MLB) from a participant leaving the fishery. In the 2012-2013 license year, there were 115 MLD, 17 MLN, and 27 MLB active endorsements. Commercial harvesters who hold an ML endorsement are not subject to harvest limits for lined seahorses when using the gear types specified below.

Florida marine life regulations restrict the gear types that can be used to harvest the lined seahorse. Recreational harvesters and commercial MLN endorsement holders are limited to the use of hand held nets, barrier nets, dropnets, slurp guns, storage bags, and rods to harvest lined seahorses. In addition to these gears, commercial MLD and MLB endorsements holders that also hold a valid live bait shrimping license may harvest lined seahorses when targeting bait shrimp using a roller frame trawl.

The marine life fishery is unique in that harvest is typically driven by dealer orders for specific species. This results in variable harvest rates as market demand fluctuates.

Species Abundance and Distribution

FWC staff conducted a literature review and examination of agency research databases to provide the following information regarding abundance and distribution of lined seahorses in Florida. Our overall conclusion is that the lined seahorse has a broad geographic range, and that its abundance in Florida has remained at relatively stable levels throughout much of that range.

Literature Review

According to McMichael et al. (2005), *H. erectus* occurs in the Western Atlantic Ocean from Nova Scotia, Canada, along most of the Atlantic and Gulf of Mexico coasts of the U.S., throughout the Caribbean, and along the Atlantic coast of South America to Uruguay. Additionally, the first occurrence of this species in the eastern Atlantic Ocean was documented in 2009 (Woodall et al. 2009). In Florida, *H. erectus* may be found in many coastal estuaries, with the possible exception of those estuaries with little submerged aquatic vegetation (e.g., seagrass).

There is a general paucity of knowledge on the biology and life history parameters of seahorses. The lifespan of seahorses has been estimated to be about one year for small species and up to about five years for larger species (Foster et al. 2004). Adult *H. erectus* height ranges from 6 to 19 cm (Lourie et al. 1999), and a reproductive study of this species suggests that they are monogamous, with the sex ratio skewed towards females (Teixeira and Musick 2001). Available life history information indicates that many seahorse species may be susceptible to high levels of exploitation and habitat degradation (Foster et al. 2004).

Hippocampus erectus has been collected in most Florida estuaries but is less common in northeast Florida and the western panhandle (McMichael et al. 2005). This species is most commonly found at depths below 1 m and has been collected from depths of 73 m in association with natural material, such as seagrass, gorgonians, sponges, mangroves,

etc., and human-made structures (Matlock 1992, Lieske and Myers 1994, Lourie et al. 1999).

Monitoring programs

Florida is the only state with programs in place to monitor both wild populations, through a community level fisheries-independent monitoring program, and harvest rates, through an extensive fisheries-dependent monitoring program. The fisheries-dependent monitoring program is possible because Florida is the only state with large enough inshore populations of seahorses to support a fishery which is detectable in commercial landings data.

The fisheries-independent monitoring (FIM) program monitors populations of estuarine fishes and selected macroinvertebrates throughout the state, and the fisheries-dependent monitoring (FDM) program monitors the commercial and recreational fisheries of Florida. The FWC- Fish and Wildlife Research Institute (FWRI) conducts both monitoring programs.

Fisheries-Independent Data

FWC staff examined the long-term FIM datasets maintained by the FWC-FWRI to determine distribution and abundance of lined seahorses in Florida, and detect trends in their abundance since 1996 (Figure 1). A stratified-random sampling design was used in all estuaries. An otter trawl was deployed in deeper water (1.8 - 7.6 m), and seines were deployed in relatively shallow water (0.3 - 1.3 m). Data from these gear types were used to create indices of abundance (IOAs) to analyze trends by estuary.

Individuals of *H. erectus* were collected from seven estuarine areas in Florida, including Apalachicola Bay, Cedar Key, Tampa Bay, Charlotte Harbor, Florida Bay, northeast Florida, and northern Indian River Lagoon. The greatest total catches (140 or more individuals) were in Apalachicola Bay, Cedar Key, Charlotte Harbor, and Tampa Bay on the Gulf coast and northern Indian River Lagoon on the Atlantic coast (Figure 1). Low abundance in the deeper areas in Florida Bay and northeast Florida created too much variability to calculate an IOA for these areas.

Statistically significant relationships between habitat variables and abundance of *H. erectus* were difficult to detect due to the small sample sizes for this species, but two general trends were evident. First, this species was caught in both seines and trawls and therefore, is found in both shallow and deeper areas of the estuary. Second, there was a tendency for higher catches to be associated with submerged aquatic vegetation, higher salinities, and greater depths.

In general, abundances of *H. erectus* remained at relatively stable levels over the time series available for each estuary, with peak abundances occurring in different years in different estuaries. Most abundances at the end of the time series in 2013 were similar to long-term averages, but abundances in both seine and trawl catches rose sharply in 2013 in the northern Indian River Lagoon, perhaps in association with some recovery of the seagrass beds in this system from a previous brown tide event in 2012.

Thus, the published literature and information gathered through fisheries-independent data collected in Florida estuaries support the idea that lined seahorses are generally more abundant on the Gulf coast of the Florida peninsula and in northern Indian River Lagoon on the Atlantic coast, and less abundant in Florida Bay and northeast Florida.

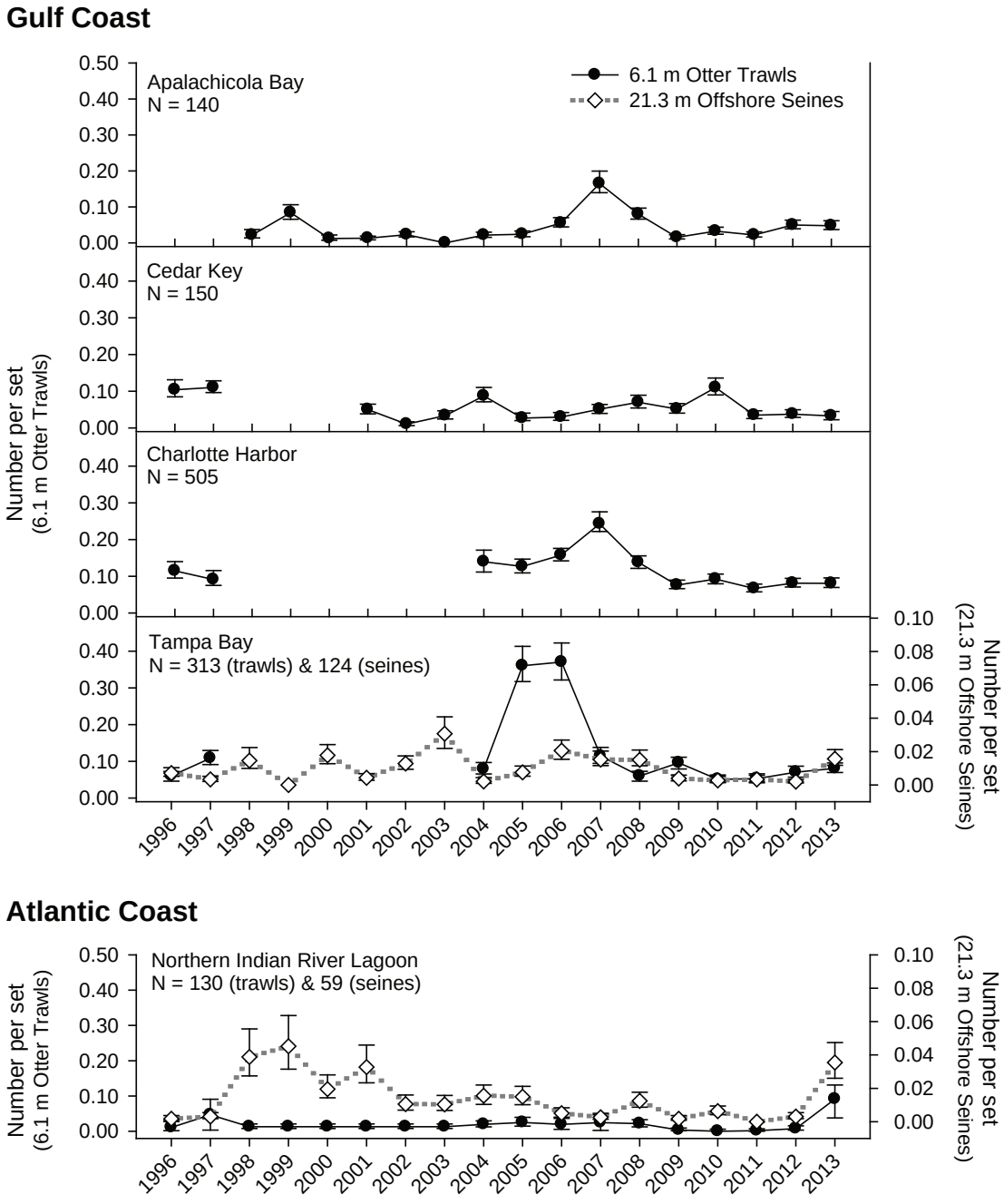

Figure 1: Long-term indices of abundance (IOAs) of *Hippocampus erectus* from 1996 to 2013 in five estuarine systems in Florida. Data collected by the Fisheries-Independent Monitoring Program of the Florida Fish and Wildlife Conservation Commission. Trawls represented by the solid circles and solid lines, and seines represented by the open diamonds and dotted lines. Note the differences in scale between seines and trawls in Tampa Bay and Indian River Lagoon.

Fisheries-Dependent Data

FWC staff examined the FDM database maintained by the FWC-FWRI for lined seahorse commercial harvest in Florida from 1990-2013 (Table 1 and Figure 2). Annual harvest rates were variable. On average since 1990, approximately 2,600 *H. erectus* have been harvested each year, ranging from a low of 537 in 2003 to a high of 8781 in 2013 (preliminary data). One thousand or more were harvested in 15 of the 23 years with complete data since 1990 (i.e., excluding 2013). However, a substantial increase of individuals (>8,700) were harvested in 2013, relative to the annual average and harvest in recent years (data for 2103 are approximately 99% reported to date). The dealers reporting most of the harvest were generally located in the areas north of Tampa Bay on the west coast, and the Everglades around to Miami on the west and east coasts of Florida. The most frequently reported gear type was trawl nets followed by dive gear and other gear types.

	SPECIES		
	SEAHORSE, LINED (=GIANT)		
	NUMBERS	TRIPS	VALUE
YEAR			
1990	3,806	132	5,687
1991	6,850	375	10,215
1992	7,250	448	10,932
1993	1,900	136	3,284
1994	2,231	122	9,900
1995	598	95	1,578
1996	1,120	101	2,293
1997	1,986	159	4,123
1998	1,180	123	3,130
1999	2,743	170	3,018
2000	496	90	1,408
2001	990	177	3,307
2002	1,339	154	2,999
2003	537	105	2,427
2004	852	92	3,608
2005	978	124	6,659
2006	1,860	180	11,147
2007	4,504	450	17,576
2008	4,333	640	17,673
2009	2,194	400	9,742
2010	1,147	180	5,897
2011	2,934	237	14,754
2012	2,403	247	11,804
2013*	8,781	268	20,924

Table 1. Commercial lined seahorse landings in numbers, trips, and estimated total value in US dollars from 1990-2013. *Data from 2013 are preliminary and subject to revision.

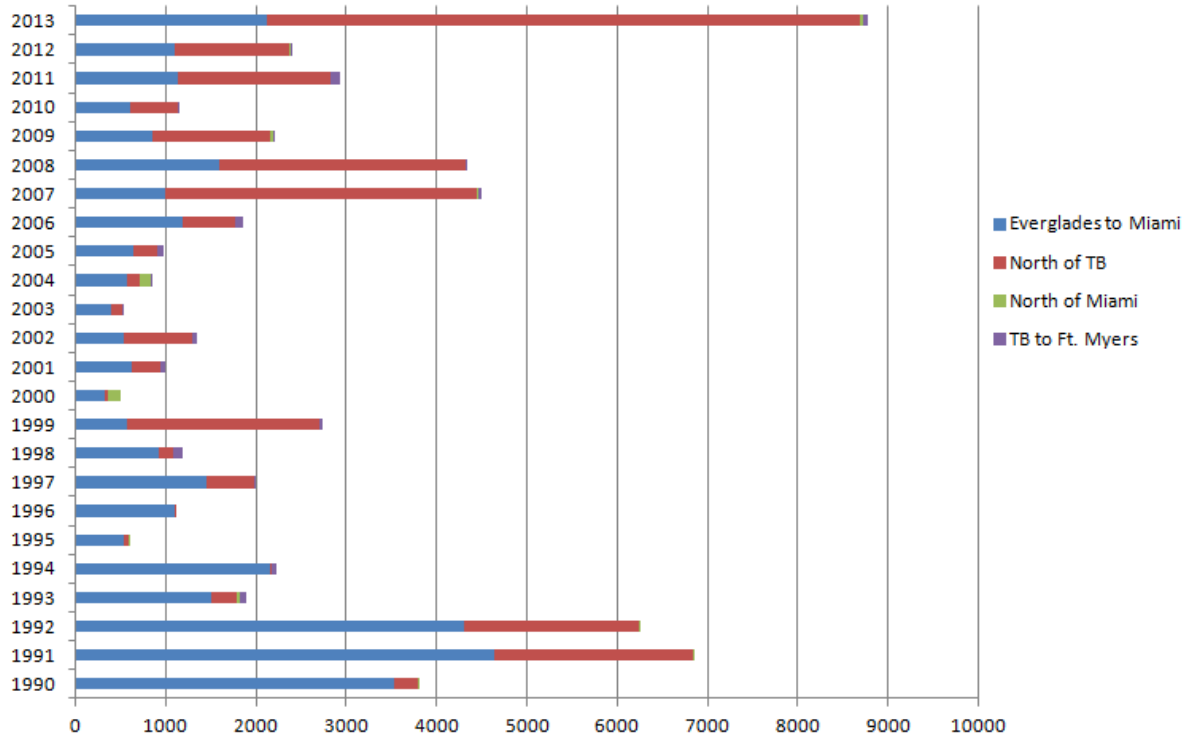

Figure 2. Harvest of lined seahorses in four regions of Florida from 1990 through 2013. Note that data for 2013 are preliminary and subject revision. Data compiled by the Fisheries-Dependent Monitoring Program of the FWC-FWRI.

Threats to Species and Conservation Measures

The lined seahorse appears to have a broad geographic range and its abundance in Florida is stable, with peak abundances occurring in different years in different estuaries. Seahorse species may be susceptible to high levels of exploitation and habitat degradation (Foster et al. 2004). Decreases in population densities and low mobility with high site-fidelity mean that seahorses may be unable to find a new partner, and the widowed partner temporarily ceases to reproduce, all of which will slow recolonization in over-exploited areas (Foster et al. 2004). This species is one of many whose populations would be decimated by a widespread loss of seagrass, but seagrass loss would have to encompass estuarine areas in the Gulf of Mexico, along the western Atlantic Ocean and throughout the Caribbean Sea to have a significant effect on the population. Recent environmental events in the Indian River Lagoon caused a massive decline in submerged aquatic vegetation, which is reflected in the reduced seahorse abundance derived from FIM data for that area in recent years. However, populations appear to be increasing, perhaps in association with recovery of the seagrass beds in that system.

Existing management measures for all marine life species appear to serve as appropriate conservation measures for lined seahorses. These measures include large areas of high-quality habitat that are closed to harvest (i.e., Florida Bay in Everglades National Park, John Pennekamp Coral Reef State Park, Biscayne National Park, and Dry Tortugas National Park), and the presence of a limited entry fishery for the commercial harvest of this species, meaning new participants may only enter the fishery by acquiring a transferable ML endorsement from a participant leaving the fishery.

The FWC looks forward to continuing to work with the U.S. Fish and Wildlife Service on this and other issues. If you have any questions about the information in this letter or Florida's lined seahorse fishery, please contact me in the Division of Marine Fisheries Management at 850-487-0554, or jessica.mccawley@myfwc.com.

Sincerely,

Jessica R. McCawley
Director

Enclosures

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Enclosure 1: Florida Marine Life Regulations – Chapter 68B-42, Florida Administrative Code 11/1/2012

CHAPTER 68B-42
MARINE LIFE

68B-42.001 Purpose and Intent; Designation of Restricted Species; Definition of "Marine Life Species".

(1)(a) The purpose and intent of this chapter are to protect and conserve Florida's tropical marine life resources and assure the continuing health and abundance of these species. The further intent of this chapter is to assure that harvesters in this fishery use nonlethal methods of harvest and that the fish, invertebrates, and plants so harvested be maintained alive for the maximum possible conservation and economic benefits.

(b) It is the express intent of the Fish and Wildlife Conservation Commission that landing of live rock propagated through aquaculture will be allowed pursuant to the provisions of this chapter.

(c) The Commission may issue Special Activity Licenses pursuant to Chapter 68B-8, F.A.C., to authorize activities that are otherwise prohibited by this chapter.

(2) The following fish species, as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, are hereby designated as restricted species pursuant to Section 379.101(32), F.S.:

(a) Moray eels – Any species of the Family Muraenidae.

(b) Snake eels – Any species of the Genera *Myrichthys* and *Myrophis* of the Family Ophichthidae.

(c) Toadfish – Any species of the Family Batrachoididae.

(d) Frogfish – Any species of the Family Antennariidae.

(e) Batfish – Any species of the Family Ogcocephalidae.

(f) Clingfish – Any species of the Family Gobiesocidae.

(g) Trumpetfish – Any species of the Family Aulostomidae.

(h) Cornetfish – Any species of the Family Fistulariidae.

(i) Pipefish/seahorses – Any species of the Family Syngnathidae.

(j) Hamlet/seabass – Any species of the Family Serranidae, except groupers of the genera *Epinephalus* and *Mycteroperca*, seabass of the genus *Centropristis*, and longtail bass, *Hemanthias leptus*, sand perch, *Diplectrum formosum*, and dwarf sand perch, *Diplectrum bivittatum*.

(k) Basslets – Any species of the Family Grammatidae.

(l) Cardinalfish – Any species of the Family Apogonidae.

(m) Porkfish – *Anisotremus virginicus*.

(n) High-hat, Jackknife-fish, Spotted drum, Cubbyu – Any species of the genus *Equetus* of the Family Sciaenidae.

(o) Reef Croakers – Any of the species *Odontoscion dentex*.

(p) Sweepers – Any species of the Family Pempheridae.

(q) Butterflyfish – Any species of the Family Chaetodontidae.

(r) Angelfish – Any species of the Family Pomacanthidae.

(s) Damselfish – Any species of the Family Pomacentridae.

(t) Hawkfish – Any species of the Family Cirrhitidae.

(u) Wrasse/hogfish/razorfish – Any species of the Family Labridae, except hogfish, *Lachnolaimus maximus*.

(v) Parrotfish – Any species of the Family Scaridae.

(w) Jawfish – Any species of the Family Opistognathidae.

(x) Blennies – Any species of the Families Clinidae or Blenniidae.

(y) Sleepers – Any species of the Family Eleotridae.

(z) Gobies – Any species of the Family Gobiidae.

(aa) Tangs and surgeonfish – Any species of the Family Acanthuridae.

(bb) Filefish/triggerfish – Any species of the Family Balistidae, except gray triggerfish, *Balistes capriscus*, ocean triggerfish, *Canthidermis sufflamen*, and unicorn filefish, *Aluterus monoceros*.

(cc) Trunkfish/cowfish – Any species of the Family Ostraciidae.

(dd) Pufferfish/burrfish/balloonfish/porcupinefish – Any of the following species:

1. Balloonfish – *Diodon holocanthus*.

2. Sharpnose puffer – *Canthigaster rostrata*.

3. Striped burrfish – *Chilomycterus schoepfi.*

4. Porcupinefish – *Diodon hystrix.*

5. Spotted burrfish – *Chilomycterus atringa.*

(ee) Black brotula – *Stygnobrotula latebricola.*

(ff) Key brotula – *Ogilbia cayorum.*

(gg) Blackbar soldierfish – *Myripristis jacobus*.

(hh) Yellow stingray – *Urobatis jamaicensis.*

(3) The following invertebrate species, as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, are hereby designated as restricted species pursuant to Section 379.101(32), F.S.:

(a) Sponges – Any species of the Class Demospongiae, except sheepswool, yellow, grass, glove, finger, wire, reef, and velvet sponges, Order Dictyoceratida.

(b) Upside-down jellyfish – Any species of the Genus *Cassiopea*.

(c) Siphonophores/hydroids – Any species of the Class Hydrozoa, except fire corals, Family Milleporidae.

(d) Soft corals – Any species of the Subclass Octocorallia, except sea fans *Gorgonia flabellum* and *Gorgonia ventalina*.

(e) Sea anemones – Any species of the Orders Actiniaria, Zoanthidea, Corallimorpharia, and Ceriantharia.

(f) Featherduster worms/calcareous tubeworms – Any species of the Families Sabellidae and Serpulidae.

(g) Starsnails – Any of the species *Lithopoma americanum*, *Lithopoma tectum*, or *Astralium phoebium*.

(h) Nudibranchs/sea slugs – Any species of the Subclass Opisthobranchia.

(i) Fileclams – Any species of the Genus *Lima*.

(j) Octopods – Any species of the Order Octopoda, except the common octopus, *Octopodus vulgaris*.

(k) Shrimp – Any of the following species:

1. Cleaner shrimp and peppermint shrimp – Any species of the Genera *Ancylomenes* or *Lysmata*.
2. Coral shrimp – Any species of the Genus *Stenopus*.
3. Snapping shrimp – Any species of the Family Alpheidae.

(l) Crabs – Any of the following species:

1. Yellowline arrow crab – *Stenorhynchus seticornis*.
2. Furcate spider or decorator crab – *Stenocionops furcatus*.
3. Blue-legged or tricolor hermit crab – *Clibanarius tricolor*.
4. Thinstripe hermit crab – *Clibanarius vittatus*.
5. Polkadotted hermit crab – *Phimochirus operculatus*.
6. Spotted porcelain crab – *Porcellana sayana*.
7. Nimble spray or urchin crab – *Percnon gibbesi*.
8. False arrow crab – *Metoporhaphis calcarata*.

(m) Starfish – Any species of the Class Asteroidea, except the Bahama starfish, *Oreaster reticulatus*.

(n) Brittlestars – Any species of the Class Ophiuroidea.

(o) Sea urchins – Any species of the Class Echinoidea, except longspine urchin, *Diadema antillarum*, and sand dollars and sea biscuits, Order Clypeasteroida.

(p) Sea cucumbers – Any species of the Class Holothuroidea.

(q) Sea lilies – Any species of the Class Crinoidea.

(r) Red mithrax crab – *Mithraculus ruber*.

(s) Red-ridged clinging crab – *Mithraculus forceps*.

(t) Green clinging or emerald crab – *Mithraculus sculptus*.

(u) Hermit Crabs – Any species of the families Diogenidae (left-handed hermit crabs) or Paguridae (right-handed hermit crabs) or Parapaguridae (deepwater hermit crabs) or Pylochelidae (symmetrical hermit crabs).

(v) Nassarius snails – Any species of the genus *Nassarius*.

(4) The following species of plants, as they occur in waters of the state and in federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, are hereby designated as restricted species pursuant to Section 379.101(32), F.S.:

(a) Caulerpa – Any species of the Family Caulerpaceae.

(b) Halimeda/mermaid's fan/mermaid's shaving brush – Any species of the Family Udoteaceae.

(c) Coralline red algae – Any species of the Family Corallinaceae.

(5) For the purposes of Section 379.361(2)(j), F.S., the term "marine life species" is defined to mean those species designated as restricted species in subsections (2), (3), and (4) of this rule.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 6-1-99, Formerly 46-42.001, Amended 10-7-01, 7-1-09, 11-1-12.

68B-42.002 Definitions.

As used in this rule chapter:

(1) "Barrier net," also known as a "fence net," means a seine used beneath the surface of the water by a diver to enclose and concentrate tropical fish and which may be made of either nylon or monofilament.

(2) "Colony" means a continuous group of octocoral polyps forming a single unit.

(3) "Commercial quantities" means any amount of marine life harvested or possessed for the purposes of sale or with intent to sell or in excess of the recreational bag limit.

(4) "Diving" means swimming at or below the surface of the water.

(5) "Drop net" means a small, usually circular, net with weights attached along the outer edge and a single float in the center, used by a diver to enclose and concentrate tropical fish.

(6) “Fork Length” means the length of a fish as measured from the most forward point of the head to the rear center edge of the tail.

(7) “Hand held net” means a landing or dip net as defined in subsection 68B-4.002(4), F.A.C., except that a portion of the bag may be constructed of clear plastic material, rather than mesh.

(8) “Harvest” means the catching or taking of a marine organism by any means whatsoever, followed by a reduction of such organism to possession. Marine organisms that are caught but immediately returned to the water free, alive, and unharmed are not harvested. In addition, temporary possession of a marine animal for the purpose of measuring it to determine compliance with the minimum or maximum size requirements of this chapter shall not constitute harvesting such animal, provided that it is measured immediately after taking, and immediately returned to the water free, alive, and unharmed if undersize or oversize.

(9) “Harvest for commercial purposes” means the taking or harvesting of any tropical ornamental marine life species or tropical ornamental marine plant for purposes of sale or with intent to sell. The harvest of tropical ornamental marine life species or tropical ornamental marine plants in excess of the bag limit shall constitute a violation of this rule.

(10) “Immediate family” refers to a license holder’s mother, father, sister, brother, spouse, son, daughter, step-father, step-mother, step-son, step-daughter, half-sister, half-brother, son-in-law, or daughter-in-law.

(11) “Land,” when used in connection with the harvest of marine organisms, means the physical act of bringing the harvested organism ashore.

(12) “Live rock” means rock with living marine organisms attached to it and includes any formations created by tube worms of the family Sabellariidae.

(13) “Octocoral” means any erect, nonencrusting species of the Subclass Octocorallia, except the species *Gorgonia flabellum* and *Gorgonia ventalina*.

(14) “Power tool” means anything other than a hand-powered tool. Prohibited devices include but are not limited to electric, gas, hydraulic or air-powered tools.

(15) “Slurp gun” means a self-contained, handheld device that captures tropical fish by rapidly drawing seawater containing such fish into a closed chamber.

(16) “Total length” means the straight line distance from the most forward point of the head with the mouth closed, to the farthest tip of the tail with the tail compressed or squeezed, while the fish is lying on its side.

(17) “Trawl” means a net in the form of an elongated bag with the mouth kept open by various means and fished by being towed or dragged on the bottom. “Roller frame trawl” means a trawl with all of the following features and specifications:

(a) A rectangular rigid frame to keep the mouth of the trawl open while being towed.

(b) The lower horizontal beam of the frame has rollers to allow the trawl to roll over the bottom and any obstructions while being towed.

(c) The trawl opening is shielded by a grid of vertical bars spaced no more than 3 inches apart.

(d) The trawl is towed by attaching a line or towing cable to a tongue located above or at the center of the upper horizontal beam of the frame.

(e) The trawl has no doors attached to keep the mouth of the trawl open.

(18) “Tropical fish” means any species included in subsection (2) of Rule 68B-42.001, F.A.C., or any part thereof.

(19) “Tropical ornamental marine life species” means any species included in subsection (2) or (3) of Rule 68B-42.001, F.A.C., or any part thereof.

(20) “Tropical ornamental marine plant” means any species included in subsection (4) of Rule 68B-42.001, F.A.C.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New

1-1-91, Amended 7-1-92, 1-1-95, 7-15-96, Formerly 46-42.002, Amended 2-1-05, 7-1-06, 7-1-09, 10-31-11, 11-1-12.

68B-42.003 Prohibition of Harvest: Longspine Urchin, Bahama Starfish.

No person shall harvest or possess within or without the waters of the state, or land any of the following species:

(1) Longspine urchin, *Diadema antillarum*.

(2) Bahama starfish, *Oreaster reticulatus*.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, Formerly 46-42.003, Amended 10-31-11.

68B-42.0035 Live Landing and Live Well Requirements.

(1) Each person harvesting any tropical ornamental marine life species or any tropical ornamental marine plant within or without state waters shall land such marine organism alive.

(2) Each person harvesting any tropical ornamental marine life species or any tropical ornamental marine plant within or without state waters shall have aboard the vessel being used for such harvest a continuously circulating live well or aeration or oxygenation system of adequate size and capacity to maintain such harvested marine organisms in a healthy condition.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-1-92, Formerly 46-42.0035, Amended 10-31-11.

68B-42.0036 Closed Areas.

(1) No person shall harvest any tropical ornamental marine life species or any tropical ornamental marine plant within Biscayne National Park, unless such person possesses a valid collecting permit issued by the superintendent of the park.

(2) For purposes of this rule, the term “Biscayne National Park” shall mean all waters lying within the boundaries of the park as described in subsection 68B-28.004(2), F.A.C.

(3) No person shall harvest or possess any octocorals in the following areas:

(a) Federal Exclusive Economic Zone (EEZ) waters of the Atlantic Ocean north of 28°35.1' N. lat. (due east of the NASA Vehicle Assembly Building, Cape Canaveral, FL).

(b) Stetson-Miami Terrace Deepwater Coral Habitat Area of Particular Concern.

(c) Pourtales Terrace Deepwater Coral Habitat Area of Particular Concern.

(4) For the puposes of this rule, the term “Stetson-Miami Terrace Deepwater Coral Habitat Area of Particular Concern” shall mean all waters lying within the following geographical boundary coordinates:

Point	Latitude	Longitude
133	28°30'37"N	79°48'35"W
134	28°14'00"N	79°46'20"W
135	28°11'41"N	79°46'12"W
136	28°08'02"N	79°45'45"W
137	28°01'20"N	79°45'20"W
138	27°58'13"N	79°44'51"W
139	27°56'23"N	79°44'53"W
140	27°49'40"N	79°44'25"W
141	27°46'27"N	79°44'22"W
142	27°42'00"N	79°44'33"W
143	27°36'08"N	79°44'58"W

144	27°30'00"N	79°45'29"W
145	27°29'04"N	79°45'47"W
146	27°27'05"N	79°45'54"W
147	27°25'47"N	79°45'57"W
148	27°19'46"N	79°45'14"W
149	27°17'54"N	79°45'12"W
150	27°12'28"N	79°45'00"W
151	27°07'45"N	79°46'07"W
152	27°04'47"N	79°46'29"W
153	27°00'43"N	79°46'39"W
154	26°58'43"N	79°46'28"W
155	26°57'06"N	79°46'32"W
156	26°49'58"N	79°46'54"W
157	26°48'58"N	79°46'56"W
158	26°47'01"N	79°47'09"W
159	26°46'04"N	79°47'09"W
160	26°35'09"N	79°48'01"W
161	26°33'37"N	79°48'21"W
162	26°27'56"N	79°49'09"W
163	26°25'55"N	79°49'30"W
164	26°21'05"N	79°50'03"W
165	26°20'30"N	79°50'20"W
166	26°18'56"N	79°50'17"W
167	26°16'19"N	79°54'06"W
168	26°13'48"N	79°54'48"W
169	26°12'19"N	79°55'37"W
170	26°10'57"N	79°57'05"W
171	26°09'17"N	79°58'45"W
172	26°07'11"N	80°00'22"W
173	26°06'12"N	80°00'33"W
174	26°03'26"N	80°01'02"W
175	26°00'35"N	80°01'13"W
176	25°49'10"N	80°00'38"W
177	25°48'30"N	80°00'23"W
178	25°46'42"N	79°59'14"W
179	25°27'28"N	80°02'26"W
180	25°24'06"N	80°01'44"W
181	25°21'04"N	80°01'27"W
182	25°21'04"N	79°42'04"W

(5) For the purposes of this rule, the term “Pourtales Terrace Deepwater Coral Habitat Area of Particular Concern” shall mean all waters lying within the following geographical boundary coordinates:

Point	Latitude	Longitude
Origin	24°20'12"N	80°43'50"W
1	24°33'42"N	80°34'23"W
2	24°37'45"N	80°31'20"W
3	24°47'18"N	80°23'08"W

4	24°51'08"N	80°27'58"W
5	24°42'52"N	80°35'51"W
6	24°29'44"N	80°49'45"W
7	24°15'04"N	81°07'52"W
8	24°10'55"N	80°58'11"W

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-1-92, Formerly 46-42.0036, Amended 10-31-11.

68B-42.004 Size Limits.

(1) The regulations in this section apply in all state waters and, in absence of any regulations for the species in federal waters, apply in adjacent federal Exclusive Economic Zone (EEZ) waters.

(2) Angelfishes:

(a) No person shall harvest, possess, or land any of the following species of angelfish (Family Pomacanthidae), of total length outside of the limits specified below:

1. A minimum of one-and-one-half (1 1/2) inches and a maximum of eight (8) inches for any species (including hybrids) of the Genus *Pomacanthus*.

2. A minimum of one-and-three-quarters (1 3/4) inches and a maximum of eight (8) inches for species (including hybrids) of the Genus *Holacanthus*, except for the species rock beauty (*Holacanthus tricolor*).

3. A minimum of two (2) inches and a maximum of five (5) inches for rock beauty (*Holacanthus tricolor*).

(b) Except as provided herein, no person shall purchase, sell, or exchange any angelfish outside the limits specified in paragraph (a). This prohibition shall not apply to angelfish legally harvested outside of state waters or federal Exclusive Economic Zone (EEZ) waters adjacent to state waters, which angelfish are entering Florida in interstate or international commerce. The burden shall be upon any person possessing such angelfish for sale or exchange to establish the chain of possession from the initial transaction after harvest, by appropriate receipt(s), bill(s) of sale, or bill(s) of lading, and any customs receipts, and to show that such angelfish originated from a point outside the waters of the State of Florida or federal Exclusive Economic Zone (EEZ) waters adjacent to Florida waters and entered the state in interstate or international commerce. Failure to maintain such documentation or to promptly produce same at the request of any duly authorized law enforcement officer shall constitute a violation of this rule.

(3) Butterflyfishes – No person shall harvest, possess, or land any butterflyfish (Family Chaetodontidae) of total length less than one (1) inch or greater than 4 inches.

(4) Gobies – No person shall harvest, possess, or land any gobie (Family Gobiidae) of total length greater than 2 inches.

(5) Jawfishes – No person shall harvest, possess, or land any jawfish (Family Opistognathidae) of total length greater than 4 inches.

(6) Porkfish – No person shall harvest, possess, or land any porkfish (*Anisotremus virginicus*) of total length less than 1 1/2 inches.

(7) Cuban (Spotfin) and Spanish hogfish:

(a) No person shall harvest, possess, or land any Spanish hogfish *(Bodianus rufus)* of total length less than 2 inches.

(b) No person shall harvest, possess, or land any Cuban (spotfin) hogfish (*Bodianus pulchellus*) of total length less than 3 inches.

(c) No person shall harvest, possess, or land any Spanish hogfish (*Bodianus rufus*) or Cuban (spotfin) hogfish (*Bodianus pulchellus*) of total length greater than 8 inches.

(8) Tangs – No person shall harvest, possess, or land any tangs (Family Acanthuridae) of fork length greater than 9 inches.

(9) Parrotfish – No person shall harvest, possess, or land any parrotfish (Family Scaridae) of total length greater than 12 inches.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 7-15-96, Formerly 46-42.004, Amended 6-1-99, 7-1-09, 10-31-11, 11-1-12.

68B-42.005 Recreational Bag Limit.

(1) The regulations in this section apply in all state waters and, in absence of any regulations for the species in federal waters, apply in adjacent federal Exclusive Economic Zone (EEZ) waters.

(2) Except as provided in Rule 68B-42.006, F.A.C., or subsection (3) or (4) of this rule, no person shall harvest, possess, or land more than 20 individuals per day of tropical ornamental marine life species. No more than 5 of any one species, as defined in subsection 68B-42.001(2) and (3), F.A.C., can be harvested within the 20 organism bag limit. No person shall possess more than 40 total marine life organisms anywhere at any time.

(3) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than one (1) gallon per day of tropical ornamental marine plants, in any combination of species. No person shall harvest or possess more than 2 gallons of tropical ornamental plants anywhere at any time.

(4) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 angelfishes (Family Pomacanthidae) per day. Each angelfish shall be counted for purposes of the 20 individual bag limit specified in subsection (1) of this rule.

(5)(a) Except as provided in Rule 68B-42.006, F.A.C., unless the season is closed pursuant to paragraph (b), no person shall harvest, possess, or land more than 6 colonies per day of octocorals. Each colony of octocorals or part thereof shall be considered an individual of the species for purposes of subsection (2) of this rule and shall be counted for purposes of the 20 individual bag limit specified therein. Each person harvesting any octocoral as authorized by this rule may also harvest substrate within 1 inch of the perimeter of the holdfast at the base of the octocoral, provided that such substrate remains attached to the octocoral.

(b) If the octocoral quota established in Rule 68B-42.006, F.A.C., is projected to be met prior to September 30 of any year, the season for harvest of octocorals shall close until the following October 1, upon notice given by the Executive Director of the Fish and Wildlife Conservation Commission, in the manner provided in Section 120.81(5), F.S.

(6) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 single polyps in the order Corallimorpharia. Each polyp must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(7) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 polyps of the order Zoanthidea. Each zoanthid polyp must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(8) Except as provided in Rule 68B-42.006, F.A.C., no person shall harvest, possess, or land more than 5 ornamental sponges as defined in Rule 68B-42.001, F.A.C. In all waters north of a line extending due west from the southernmost point of Egmont Key in the Gulf of Mexico, northward and westward these sponges can be collected with substrate within 1 inch of the perimeter of the holdfast at the base of the sponge and extending 1 inch below the holdfast of the sponge. South of this line, no substrate is allowed.

(9) No person shall harvest, possess, or land giant Caribbean or “pink-tipped” anemones (Genus Condylactis).

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 1-1-95, Formerly 46-42.005, Amended 7-1-09, 10-31-11, 11-1-12.

68B-42.006 Commercial Season, Harvest Limits.

(1) The regulations in this section apply in all state waters and, in absence of any regulations for the species in federal waters, apply in adjacent federal Exclusive Economic Zone (EEZ) waters.

(2) Except as provided in Rule 68B-42.008, F.A.C., no person shall harvest, possess, or land quantities of tropical ornamental marine life species or tropical ornamental marine plants in excess of the bag limits established in Rule 68B-42.005, F.A.C., unless such person is fishing under or harvesting under a valid saltwater products license with both a marine life fishery endorsement and a restricted species endorsement issued by the Fish and Wildlife Conservation Commission.

(3) Persons harvesting tropical ornamental marine life species or tropical ornamental marine plants for commercial purposes shall have a season that begins on October 1 of each year and continues through September 30 of the following year. These persons shall not harvest, possess, or land tropical ornamental marine life species in excess of the following limits:

(a) A limit of 75 angelfish (Family Pomacanthidae) per person per day or 150 angelfish per vessel per day, whichever is less.

(b) A limit of 50 butterflyfishes (Family Chaetodontidae) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 100 aboard a vessel at any time with two of more unique saltwater license numbers with marine life endorsements aboard.

(c) A limit of 75 porkfish (A*nisotremus virginicus*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 150 porkfish aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(d) A limit of 50 Spanish hogfish (*Bodianus rufus*) and 50 Cuban (spotfin) hogfish (*Bodianus pulchellus*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 100 of either aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(e) A limit of 400 dwarf seahorses (*Hippocampus zosterae*) per person or per vessel per day, whichever is less.

(f) There shall be no limits on the harvest for commercial purposes of octocorals unless and until the season for all harvest of octocorals is closed. The quota for all persons who harvest allowable octocoral is 70,000 colonies. When this quota is projected to be met, the season for harvest of octocorals shall close until the following October 1, upon notice given by the Executive Director of the Fish and Wildlife Conservation Commission, in the manner provided in Section 120.81(5), F.S. Each person harvesting any octocoral as authorized by this rule may also harvest substrate within 1 inch of the perimeter of the holdfast at the base of the octocoral, provided that such substrate remains attached to the octocoral.

(g) A limit of zero (0) giant Caribbean or “pink-tipped” anemones (Genus Condylactis) per unique saltwater product license number bearing a unique marine life endorsement number with a maximum possession limit of zero (0) aboard a vessel at any time with two unique marine life endorsement numbers aboard.

(h) A limit of one gallon of starsnails (*Lithopoma americanum, Lithopoma tectum*, or *Astralium phoebium*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 2 gallons aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(i) A limit of one quart of blue-legged or tricolor hermit crabs (*Clibanarius tricolor*) per person or per vessel each day, whichever is less.

(j) A limit of 100 single polyps in the order Corallimorpharia per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 200 single corallimorph polyps aboard a vessel at any time with two or more unique saltwater products license numbers with marine life

endorsements aboard. These polyps must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(k) A limit of 1 gallon of polyps of the order Zoanthidea per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of 2 gallons aboard a vessel at any time with two or more unique saltwater products license numbers with the marine life endorsement aboard. Zoanthid polyps must be harvested using a flexible blade, such as a putty knife, razor blade, or paint scraper with a blade no wider than 2 inches.

(l) A limit of 400 emerald crabs (*Mithraculus sculptus*) per person or per vessel per day, whichever is less.

(m) A limit of one quart of scarlet reef hermits (*Paguristes cadenati*) per day per unique saltwater products license number with a marine life endorsement, and a maximum possession limit of two quarts aboard a vessel at any time with two or more unique saltwater products license numbers with marine life endorsements aboard.

(n) There is no harvest limit of ornamental sponges as defined in Rule 68B-42.001, F.A.C., however in all waters north of a line extending due west from the southernmost point of Egmont Key in the Gulf of Mexico, northward and westward these sponges can be collected with substrate within 1 inch of the perimeter of the holdfast at the base of the sponge and extending 1 inch below the holdfast of the sponge. South of this line, no substrate is allowed.

(o) A limit of 200 sea cucumbers (Class Holothuroidea) per person or per vessel per day, whichever is less.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, Formerly 46-42.006, Amended 6-1-99, 2-28-02, 7-1-09, 10-31-11, 11-1-12, 6-11-14.

68B-42.0065 Commercial Requirements; Endorsements; Requalifying; Appeals; Leasing; Transferability.

(1)(a) Beginning in the 2005/2006 license year, in addition to a valid saltwater products license with a valid restricted species endorsement, a marine life tiered endorsement is required to harvest marine life species within or without state waters in quantities greater than the recreational bag limit or to sell marine life species as defined by Rule 68B-42.001, F.A.C.

(b) A marine life endorsement is not required to harvest live rock from a certified state aquaculture lease or federally permitted aquaculture site.

(2) The Commission shall notify all holders of a 2004/2005 saltwater products license with a marine life endorsement of their initial award or denial of a commercial marine life tiered endorsement. Persons will indicate either their acceptance of the initial award on a Marine Life Tiered Endorsement Application (Form DMF-SL4100 (2-05), incorporated herein by reference) or intent to appeal as specified in subsection (14).

(3) Application for issuance of a commercial marine life tiered endorsement (Form DMF-SL4100 (2-05), incorporated herein by reference), must be received by the Commission no later than September 30, 2005. An applicant may be a person, firm, or corporation.

(a) A tiered endorsement applicant must have held a valid marine life endorsement during the 2004/2005 license year. No new marine life tiered endorsement will be issued to an applicant who did not hold a valid saltwater products license with a valid restricted species endorsement and a marine life endorsement pursuant to Section 379.361, F.S., at the time of application or on June 30, 2005.

(b) Qualification for a marine life tiered endorsement shall be determined by landings of marine life species as defined by Rule 68B-42.001, F.A.C., and reported on a valid saltwater products license with a valid restricted species endorsement and a marine life endorsement (ML) and as specified in paragraph (c) of this subsection.

(c) Qualified endorsement applicants must have documented commercial marine life landings, pursuant to

Commission trip ticket records generated under the provisions of Rule Chapter 68E-5, F.A.C., during the license year, July 1, 1999 through June 30, 2000; the license year, July 1, 2000 through June 30, 2001; the license year, July 1, 2001 through June 30, 2002; or during the license year, July 1, 2002 through June 30, 2003. Qualifying landings must have been received by the FWC by January 1, 2004.

(d) Landings reported on all the applicant's individual and vessel saltwater products licenses with the current marine life endorsement will be used to determine an applicant's eligibility to receive one of the marine life tiered endorsements specified in subsections (4) through (6).

(4) Marine Life Bycatch Endorsement (MLB) – The marine life bycatch endorsement is required to harvest commercial quantities of marine life using bycatch gears as authorized in paragraph 68B-42.007(1)(f) and subsection 68B-42.007(3), F.A.C., which does not include harvest by diving.

(a) An applicant for the marine life bycatch endorsement must have an annual landings value of marine life as defined in paragraph (3)(b) of greater than zero dollars but less than $5,000 during any one of the qualifying years specified in paragraph (3)(c).

(b) A marine life bycatch endorsement will be issued on no more than one of an applicant's saltwater products licenses in any one license year.

(c) A marine life bycatch endorsement is transferable pursuant to subsections (16) and (17).

(5) Marine Life Transferable Dive Endorsement (MLD) – The marine life transferable dive endorsement is required to harvest commercial quantities of marine life using all allowable gears as authorized in Rule 68B-42.007, F.A.C., which includes harvest by diving.

(a) No marine life transferable dive endorsement will be issued to an applicant who does not qualify by one of the following methods:

1. An applicant must have qualified as specified in subsection (3) and have documented commercial marine life landings as defined in paragraph (3)(b) of greater than or equal to $5,000 in any one of the qualifying years specified in paragraph (3)(c), and have documented dive landings during the qualifying years; or

2. An applicant must hold a live rock state lease or federal permit and have documented live rock landings value of greater than or equal to $5,000 during any one of the qualifying years specified in paragraph (3)(c) and held a marine life endorsement prior to 1998.

(b) A marine life transferable dive endorsement will be issued on no more than two of an applicant's saltwater products licenses in any one license year, except that an individual who has qualified as specified in subparagraph (a)1. and who has additional landings values of commercial marine life landings pursuant to subsection (3) on a subsequent saltwater products license held by the applicant of greater than $10,000 may place the marine life transferable dive (MLD) on the additional vessel SPL(s) so qualified.

(c) A marine life transferable dive endorsement is transferable pursuant to subsections (16) and (17).

(6) Marine Life Non-transferable Dive Endorsement (MLN) – The marine life non-transferable dive endorsement is required to harvest commercial quantities of marine life by diving as defined in subsection 68B-42.002(3), F.A.C., using dive gears as authorized in paragraphs 68B-42.007(1)(a)-(e) and subsection 68B-42.007(2), F.A.C.

(a) No marine life non-transferable dive endorsements will be issued to an applicant who does not qualify by one of the following methods:

1. As specified in paragraph (4)(a); or

2. An applicant must hold a state live rock lease and/or a federal live rock permit and provide documentation of development of the site or sites and must have held a marine life endorsement prior to September 30, 2003.

(b) A marine life non-transferable dive endorsement will be issued on no more than one of an applicant's saltwater products licenses in any one license year.

(c) A marine life non-transferable dive endorsement (MLN) is not transferable, except in the event of death or permanent disability pursuant to subsection (17).

(7) After initial issuance, no endorsement may be converted from one type to another, except as provided in subsection (12).

(8) No Vested Rights. This marine life effort management program does not create any vested rights for endorsement holders whatsoever and may be altered or terminated by the Commission as necessary to protect the marine life resource, the participants of the fishery, or the public interest.

(9) No person, firm, or corporation shall be issued more than one marine life tiered endorsement type or more than one unique marine life tiered endorsement number.

(10) Effective September 30, 2005, no additional tiered endorsements will be issued and no endorsement will be renewed or replaced except those that were issued pursuant to subsection (4), (5), or (6). Beginning in the 2006/2007 license year, persons holding an endorsement that was active during the 2005/2006 license year or an immediate family member of that person must request renewal of the endorsement before September 30 of each year. Failure to renew by September 30 of any year will result in forfeiture of the endorsement.

(11) Requalifying. Beginning with license year 2010/2011, a person renewing a marine life transferable dive (MLD) endorsement must document landings of $5,000 of marine life species as defined by Rule 68B-42.001, F.A.C., in one of the previous three license years or hold a live rock state lease or federal permit and have documented live rock landings value of greater than or equal to $5,000 during any one of the previous three license years. This endorsement will be valid for three years from the date of documentation used to qualify, but must still be renewed annually as required by subsection (10).

(12) A marine life transferable dive (MLD) endorsement can be converted to a marine life non-transferable dive (MLN) endorsement after the initial issuance. This MLN is not subject to the requalification requirements of subsection (11). This MLN can never be converted back to a MLD.

(13) A permanent marine life transferable dive (MLD) endorsement shall be available to those persons age 62 and older who held a valid MLD in the previous license year, hold a valid saltwater products license and valid restricted species endorsement at the time of application, and renew the permit pursuant to subsection (10).

(14) Appeals. The Director of the Division of Marine Fisheries Management, or one or more designees of the director, shall consider disputes and other problems arising from the initial denial of a commercial marine life tiered endorsement. The Director shall submit a recommendation to the Executive Director of the Commission for resolution of the appeal, which recommendation shall either allot an endorsement to the appellant or uphold the denial of an endorsement.

(a) An appeal of the initial denial or award of a commercial marine life tiered endorsement is initiated by submission and receipt of a completed appeals application (Form DMF-SL4110 (2-05), incorporated herein by reference) to the Director of the Division of Marine Fisheries Management before April 1, 2005.

(b) The burden of proof shall be on an appellant to demonstrate, through copies of trip tickets or other proof of landings, legitimate sales to a licensed wholesale dealer that were not reported by the wholesale dealer during the qualifying years or included in the agency landings database as of January 1, 2004.

(c) Special circumstances that can be considered during appeals shall include:

1. Persons who became disabled or can document hardship during the qualifying period, but can provide proof of landings of marine life through trip tickets prior to the qualifying period.

2. Persons who were serving in the military during the qualifying years, but can provide proof of landings of marine life through trip tickets prior to the qualifying period.

3. Persons involved in a partnership substantiated by documentation within the qualifying period.

(d) The Executive Director of the Commission may accept or disapprove the recommendations of the Director of the Division of Marine Fisheries Management, with notice given in writing to each party in the

dispute explaining the reasons for the final decision. The action of the Executive Director of the Commission constitutes final agency action, and is appealable pursuant to the requirements of Chapter 120, F.S.

(15) Leasing Prohibited. The leasing of marine life endorsements is prohibited.

(16) Transferability. After the initial issuance, the marine life bycatch (MLB) and marine life transferable dive endorsements (MLD) are transferable upon approval of the Commission under the following conditions:

(a) A transferable marine life endorsement may be sold to an otherwise qualified buyer at fair market value upon approval by the Commission.

(b) The buyer must hold a saltwater products license with a valid restricted species endorsement and the seller must hold a transferable marine life tiered endorsement.

(c) The sale or transfer of a marine life transferable dive endorsement (MLD) will result in the forfeiture of the marine life transferable dive endorsement (MLD) on all other licenses held by the seller.

(d) An endorsement holder may elect to permanently forfeit a marine life bycatch endorsement (MLB), a marine life transferable dive endorsement (MLD), or a marine life non-transferable dive endorsement (MLN) to the Commission.

(e) A person who holds a valid marine life bycatch endorsement (MLB) cannot enter into a purchase agreement for a marine life transferable dive endorsement (MLD) until they sell or permanently forfeit the marine life bycatch endorsement (MLB) at the time of transfer.

(f) A marine life bycatch endorsement (MLB) may be transferred, to any person who holds a saltwater products license with a restricted species endorsement.

(g) A marine life transferable dive endorsement (MLD) may be transferred to any person who holds a saltwater products license with a restricted species endorsement.

(h) If the marine life transferable dive endorsement (MLD) has been applied to more than two saltwater products licenses as specified in paragraph (5)(b), only the initial MLD, which serves as an endorsement for no more than two saltwater products licenses, can be transferred. The sale of this portion of the endorsement will result in the forfeiture of the endorsement on all other licenses held by the seller.

(i) The marine life non-transferable dive (MLN) endorsement is not transferable except as specified in subsection (17).

(j) A person who wishes to transfer a tiered endorsement shall submit a notarized statement of intent, that has been signed by both parties to the transaction, hand delivered, or sent by certified mail, return receipt requested, to the Commission between May 1 and the end of February. Requests received by the Commission before May 1 or postmarked after the end of February of the current license year will not be processed. A transfer request must be received by the Commission within three days of the date of the notarized signature of the intended recipient. The statement of intent (Form DMF-SL4120 (2-11), Marine Life Endorsement Transfer Form, found online at: http://www.flrules.org/Gateway/reference.asp?No=Ref-00198), incorporated herein by reference) shall include the following information:

1. The name, address, and SPL number of seller;

2. The name, address, and SPL number of buyer; and

3. The selling price.

(k) A marine life tiered endorsement shall not be issued, transferred, or renewed until all license fees, surcharges, and any other outstanding fees, fines, or penalties owed to the Commission by either party to the transaction have been paid in full within the transfer period.

(l) Upon receipt of a marine life transferable dive endorsement (MLD), the transferee has 12 months from the date of purchase to produce trip tickets and document income from the sale of marine life as defined in Rule 68B-42.001, F.A.C., in order to renew the endorsement. Once renewed, this endorsement will be valid for three years from the date of documentation used to qualify, but must still be renewed annually as required by subsection (10).

(17) In the event of the death or permanent disability of a person holding a marine life tiered endorsement, the endorsement may be transferred by the license holder or the executor of the estate to a member of his or her immediate family within 12 months of the date of death or disability only after the recipient pays any outstanding fees, fines, or penalties to the Commission in full.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 2-1-05, Amended 7-1-09, 5-1-11, 10-31-11.

68B-42.007 Gear Specifications and Prohibited Gear.

(1) The following types of gear shall be the only types allowed for the harvest of any tropical fish, whether from state waters or from federal Exclusive Economic Zone (EEZ) waters adjacent to state waters:

(a) Hand held net.

(b) Barrier net, with a total length not exceeding 60 feet, a depth not exceeding 8 feet at any point along the net, and a mesh size not exceeding 3/4 inch stretched mesh.

(c) Drop net, with a maximum dimension not exceeding 12 feet and a mesh size not exceeding 3/4 inch stretched mesh.

(d) Slurp gun.

(e) Quinaldine may be used for the harvest of tropical fish if the person using the chemical or possessing the chemical in or on the waters of the state meets each of the following conditions:

1. The person or corporation must hold a valid MLD or MLN endorsement.

2. The person also possesses and maintains aboard any vessel used in the harvest of tropical fish with quinaldine a special activity license authorizing the use of quinaldine, issued by the Fish and Wildlife Conservation Commission pursuant to Section 379.2421(6), F.S.

3. The quinaldine possessed or applied while in or on the waters of the state is in a diluted form of no more than 2% concentration in solution with seawater. Prior to dilution in seawater, quinaldine shall only be mixed with isopropyl alcohol or ethanol.

(f) A roller frame trawl operated by a person possessing a valid live bait shrimping license issued by the Fish and Wildlife Conservation Commission pursuant to Rule 68B-31.008, F.A.C. and Section 379.361, F.S., if such tropical fish are taken as an incidental bycatch of shrimp lawfully harvested with such trawl.

(g) A trawl meeting the following specifications used to collect live specimens of the dwarf seahorse, *Hippocampus zosterae*, if towed by a vessel no greater than 15 feet in length at no greater than idle speed:

1. The trawl opening shall be no larger than 12 inches by 48 inches.

2. The trawl shall weigh no more than 5 pounds wet when weighed out of the water.

(2) This rule shall not be construed to prohibit the use of any bag or container used solely for storing collected specimens or the use of a single blunt rod in conjunction with any allowable gear, which rod meets each of the following specifications:

(a) The rod shall be made of nonferrous metal, fiberglass, or wood.

(b) The rod shall be no longer than 36 inches and have a diameter no greater than 3/4 inch at any point.

(3) No person shall harvest in or from state waters any tropical fish by or with the use of any gear other than those types specified in subsection (1); provided, however, that tropical fish harvested as an incidental bycatch of other species lawfully harvested for commercial purposes with other types of gear shall not be deemed to be harvested in violation of this rule, if the quantity of tropical fish so harvested does not exceed the bag limits established in Rule 68B-42.005, F.A.C.

(4) A power tool may not be used to harvest or attempt to harvest octocorals from state waters or from federal EEZ waters adjacent to state waters.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 1-1-91, Amended 7-1-92, 1-1-95, 9-30-96, Formerly 46-42.007, Amended 7-1-09, 10-31-11.

68B-42.008 Live Rock: Harvest in State Waters Prohibited; Aquacultured Live Rock Harvest and Landing Allowed.

(1) No person shall harvest or possess for sale any live rock in or from state waters or land any live rock harvested in or from state waters, except as may be provided in subsection (3).

(2) No person shall sell, within the State of Florida, any live rock harvested in or from federal Exclusive Economic Zone (EEZ) waters adjacent to state waters unless such person possesses an Aquaculture Certificate issued by the Florida Department of Agriculture and Consumer Services pursuant to Chapter 597, F.S., and a federal Live Rock Aquaculture Permit issued by the National Marine Fisheries Service under 50 C.F.R. Part 638.

(3) Subsection (1) shall not apply to:

(a) Any person possessing an Aquaculture Certificate issued by the Florida Department of Agriculture and Consumer Services pursuant to Chapter 597, F.S., harvesting and landing live rock cultured on state submerged lands leased from the State of Florida. Rock used for such culture shall be of a readily distinguishable geologic character from rock native to the area or be securely marked or tagged so as to differentiate the cultured rock from naturally occurring live rock. The rock shall be placed on leased submerged lands by the lease-holder or a person possessing written authorization from the lease-holder.

(b) Any person lawfully harvesting substrate as part of the harvest of octocorals or ornamental sponges pursuant to subsection 68B-42.005(5), paragraph 68B-42.006(3)(f), subsection 68B-42.005(7), or paragraph 68B-42.006(3)(n), F.A.C.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const. Law Implemented Art. IV, Sec. 9, Fla. Const. History–New 7-1-92, Amended 10-18-93, 1-1-95, Formerly 46-42.008, Amended 6-1-99, 10-31-11.

68B-42.009 Prohibition on the Taking, Destruction, or Sale of Marine Corals Sea Fans, and Non-erect, Encrusting Octocorals; Exception.

(1) Except as provided in subsection (2), no person shall take, attempt to take, or otherwise destroy, or sell, or attempt to sell, any sea fan of the species *Gorgonia flabellum* or of the species *Gorgonia ventalina*, or any hard or stony coral (Order Scleractinia), any black coral (Order Antipatharia), or any fire coral (Genus *Millepora*). No person shall possess any such fresh, uncleaned, or uncured sea fan, hard or stony coral, black coral, or fire coral. No person shall harvest or possess any non-erect, encrusting species of the Subclass Octocorallia within or without state waters.

(2) Subsection (1) shall not apply to:

(a) Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting specifies of the Subclass Octocorallia legally harvested outside of state waters or federal Exclusive Economic Zone (EEZ) waters adjacent to state waters and entering Florida in interstate or international commerce. The burden shall be upon any person possessing such species to establish the chain of possession from the initial transaction after harvest, by appropriate receipt(s), bill(s) of sale, or bill(s) of lading, and any customs receipts, and to show that such species originated from a point outside the waters of the State of Florida or federal Exclusive Economic Zone (EEZ) adjacent to state waters and entered the state in interstate or international commerce. Failure to maintain such documentation or to promptly produce same at the request of any duly authorized law enforcement officer shall constitute a violation of this rule.

(b) Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting species of the Subclass Octocorallia harvested and possessed pursuant to the aquacultured live rock provisions of paragraph 68B-42.008(3)(a), F.A.C., Chapter 597, F.S., or pursuant to a Live Rock Aquaculture Permit issued by the National Marine Fisheries Service under 50 C.F.R. Section 622.41(a) and meeting the following requirements:

1. Persons possessing these species in or on the waters of the state shall also possess a state submerged lands lease for live rock aquaculture and an Aquaculture Certificate of Registration issued pursuant to Chapter

5L-3, F.A.C., or a federal Live Rock Aquaculture Permit and an Aquaculture Certificate of Registration issued pursuant to Chapter 5L-3, F.A.C. If the person possessing these species is not the person named in the documents required herein, then the person in such possession shall also possess written permission from the person so named to transport aquacultured live rock pursuant to this exception.

2. The nearest office of the Fish and Wildlife Conservation Commission, Division of Law Enforcement shall be notified at least 24 hours in advance of any transport in or on state waters of aquacultured live rock pursuant to this exception.

3. Persons possessing these species off the water shall maintain and produce upon the request of any duly authorized law enforcement officer sufficient documentation to establish the chain of possession from harvest on a state submerged land lease for live rock aquaculture or in adjacent Exclusive Economic Zone (EEZ) waters pursuant to a federal Live Rock Aquaculture Permit.

4. Any sea fan, hard or stony coral, fire coral, or non-erect, encrusting species of the Subclass Octocorallia harvested pursuant to paragraph 68B-42.008(3)(a), F.A.C., shall remain attached to the cultured rock.

Rulemaking Authority Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. Law Implemented Art. IV, Sec. 9, Fla. Const., Chapter 83-134, Laws of Fla., as amended by Chapter 84-121, Laws of Fla. History–New 1-1-95, Amended 7-15-96, Formerly 46-42.009, Amended 7-1-09, 10-31-11, 11-1-12.

Enclosure 2: Florida Marine Life License Endorsement – 379.361(2)(j), Florida Statutes, 2013

379.361 Licenses.—

(2) SALTWATER PRODUCTS LICENSE.—

(a) Every person, firm, or corporation that sells, offers for sale, barters, or exchanges for merchandise any saltwater products, or which harvests saltwater products with certain gear or equipment as specified by law, must have a valid saltwater products license, except that the holder of an aquaculture certificate under s. 597.004 is not required to purchase and possess a saltwater products license in order to possess, transport, or sell marine aquaculture products. Each saltwater products license allows the holder to engage in any of the activities for which the license is required. The license must be in the possession of the licenseholder or aboard the vessel and is subject to inspection at any time that harvesting activities for which a saltwater products license is required are being conducted.

(j)1. In addition to the saltwater products license, a marine life fishing endorsement is required for the harvest of marine life species as defined by rule of the Fish and Wildlife Conservation Commission. This endorsement may be issued only to a person who is at least 16 years of age or older or to a corporation holding a valid restricted species endorsement.

2.a. Effective July 1, 1998, and until July 1, 2002, a marine life endorsement may not be issued under this paragraph, except that those endorsements that are active during the 1997-1998 fiscal year may be renewed.

b. In 1998 persons or corporations holding a marine life endorsement that was active in the 1997-1998 fiscal year or an immediate family member of that person must request renewal of the marine life endorsement before December 31, 1998.

c. In subsequent years and until July 1, 2002, a marine life endorsement holder or member of his or her immediate family must request renewal of the marine life endorsement before September 30 of each year.

d. If a person or corporation holding an active marine life fishing endorsement or a member of that person’s immediate family does not request renewal of the endorsement before the applicable dates specified in this paragraph, the commission shall deactivate that marine life fishing endorsement.

e. In the event of the death or disability of a person holding an active marine life fishing endorsement, the endorsement may be transferred by the person to a member of his or her immediate family or may be renewed by any person so designated by the executor of the person’s estate.

f. Persons or corporations who hold saltwater product licenses with marine life fishing endorsements issued to their vessel registration numbers and who subsequently replace their existing vessels with new vessels may transfer the existing marine life fishing endorsement to the new boat registration numbers.

g. Persons or corporations who hold saltwater product licenses with marine life fishing endorsements issued to their name and who subsequently incorporate or unincorporate may transfer the existing marine life fishing endorsement to the new corporation or person.

3. The fee for a marine life fishery endorsement on a saltwater products license shall be $75. These license fees shall be collected and deposited in the Marine Resources Conservation Trust Fund and used for the purchase and installation of vessel mooring buoys at coral reef sites and for research related to marine fisheries.

Available Data Updated

Fisheries-Dependent Data

An examination of FDM's database was conducted for commercial dwarf seahorse harvest from 1990-2016 (Figure 1). The annual reported harvest and catch per unit effort (numbers of dwarf seahorses per trip) varied throughout the calendar years, likely due to fluctuations in harvester participation and consumer demand (Figures 1, 2). The dwarf seahorse fishery is an efficient fishery with harvesters generally making collections only after they have received orders from consumers. As indicated by trip tickets, the wholesale dealers reporting most of the harvest were generally located in the area between Tampa Bay and Fort Myers on the west coast of Florida (Figure 3). However, this may or may not mean that most of the harvest occurred in that area because the seahorses could have been harvested elsewhere and landed in the dealer's county.

As of the end of the 2016 calendar year, the 27-year average reported statewide commercial harvest was 37,698 individuals with a maximum annual harvest of 98,779 during that same period. The 10-year (2007-2016) average commercial harvest was 28,715 individuals with a 10-year maximum harvest of 70,808. The 5-year average commercial harvest was 21,057 individuals with a 5-year maximum harvest of 29,173. In the 20 years prior to the development of the current regulations (1990 – 2009), commercial harvest of dwarf seahorses averaged approximately 44,000 individuals per year. In the seven years since a trip limit was adopted (2010–2016), average annual harvest has been reduced to approximately 20,000 individuals per year, a reduction in annual harvest of approximately 55% per year. The majority of landings occurred between Tampa Bay and Miami (Figure 3).

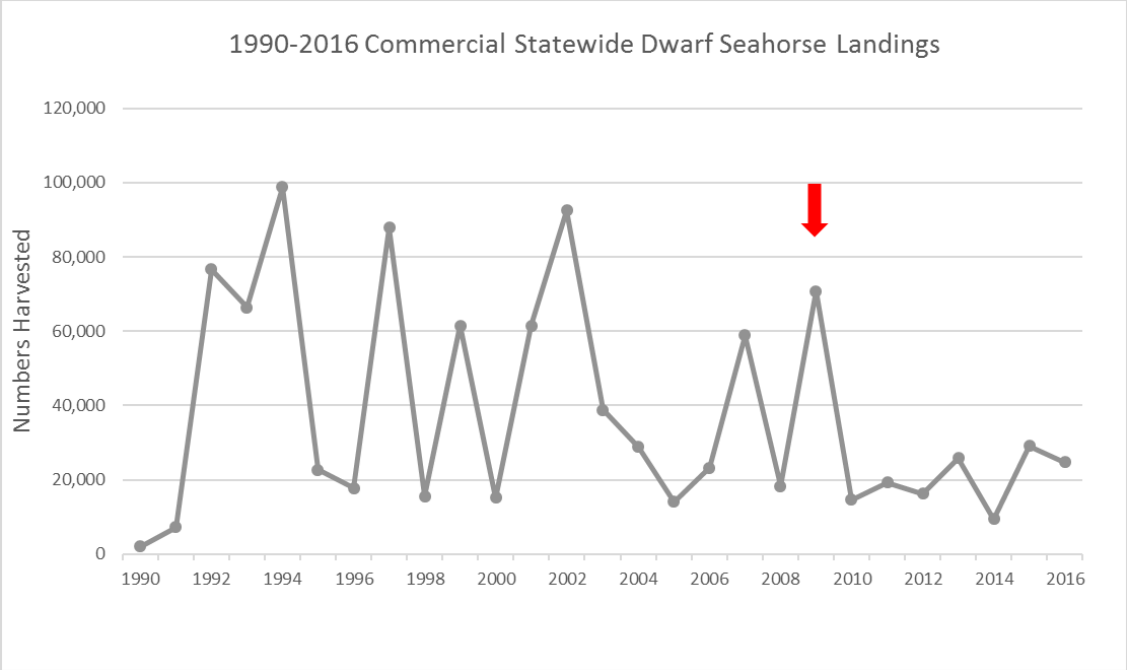

Figure 1. 1990-2016 Statewide Commercial Dwarf Seahorse Landings (numbers harvested). Arrow indicates the year in which a bag limit was implemented.

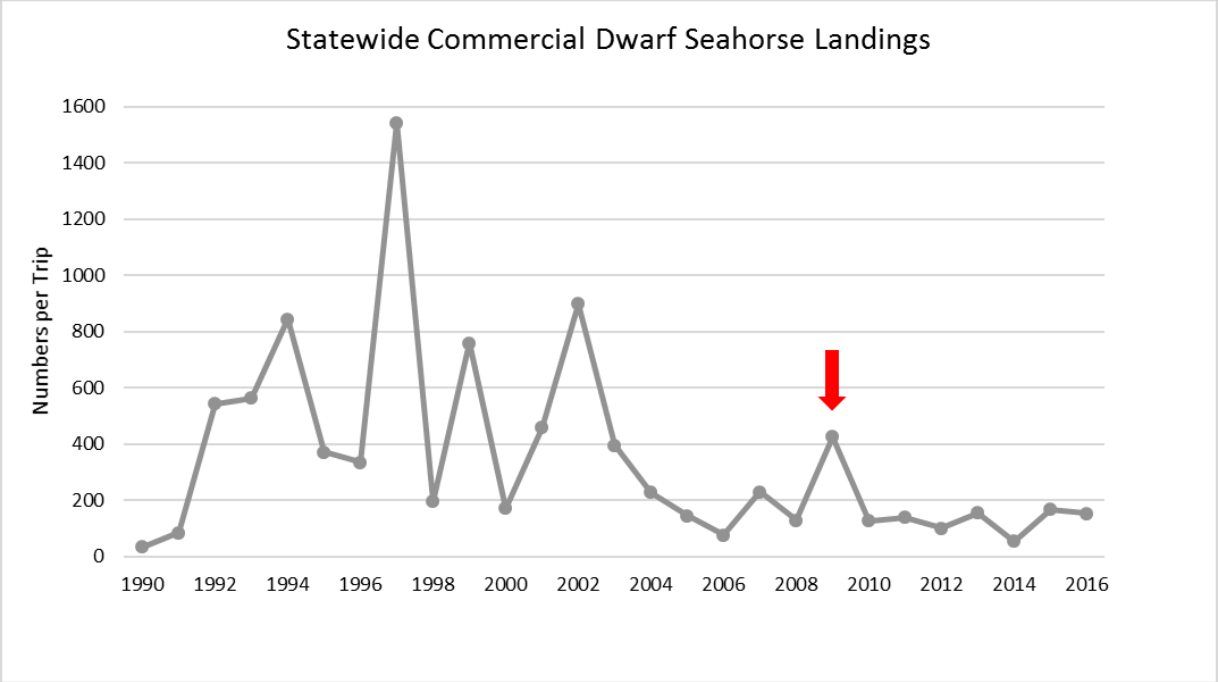

Figure 2. 1990-2016 Statewide Commercial Dwarf Seahorse Landings (numbers of dwarf seahorses per trip). Arrow indicates the year in which a bag limit was implemented.

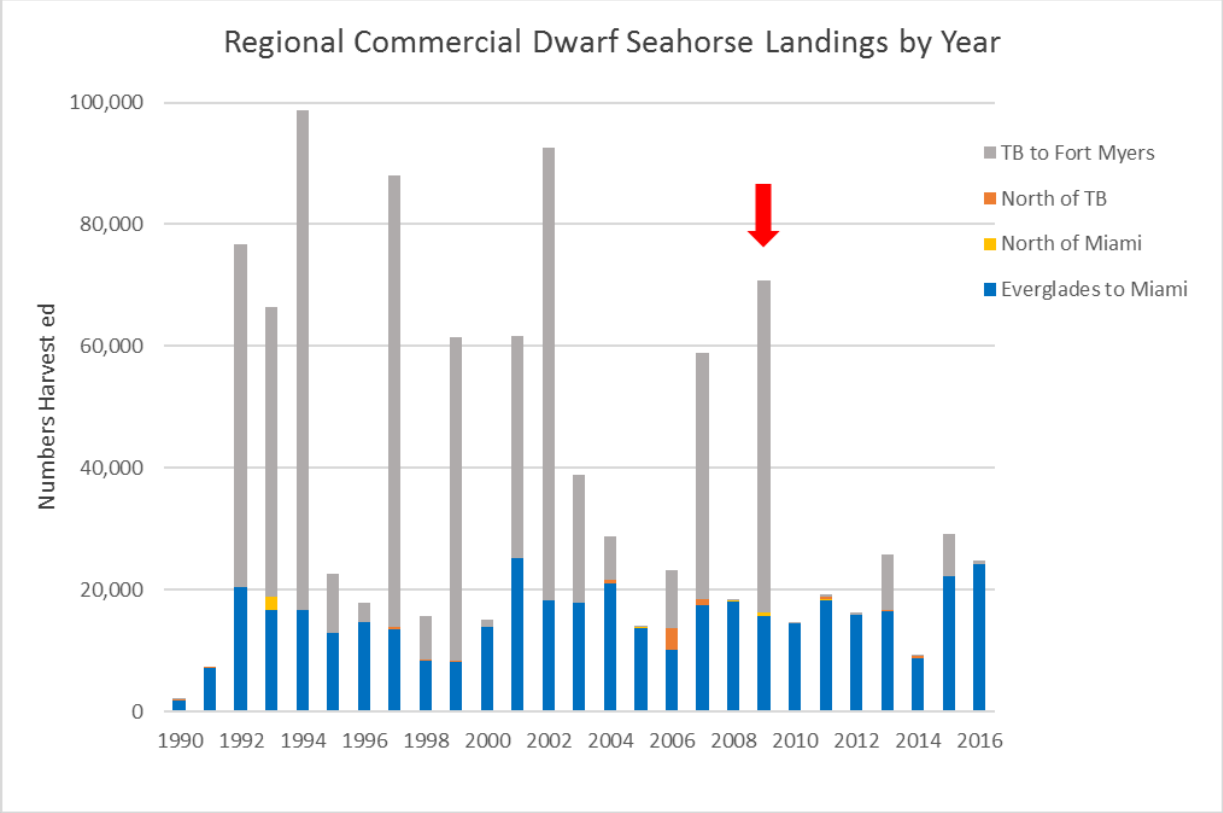

Figure 3. 1990-2016 Regional Commercial Dwarf Seahorse Landings (numbers of dwarf seahorses). Arrow indicates the year in which a bag limit was implemented. TB = Tampa Bay.

Fisheries-Independent Data

The FIM program monitors the relative abundance of fishery resources in Florida's major estuarine, coastal, and reef systems (Figure 4). FIM uses a stratified-random sampling (SRS) design, an approach which distributes sampling effort among habitat types and directs greater sampling effort into habitats with higher variability in catches to reduce variability in the data. With the SRS design, FIM divides each estuary to be surveyed into zones based on hydrological and logistical characteristics. The different habitat types (for example: depth, seagrass beds, shore type) available within each zone are then identified as strata. FIM conducts monthly sampling at sites randomly selected from the strata available within each zone annually. A variety of techniques and sampling gear types are used by FIM to ensure that the wide range of species, sizes, and ages necessary for stock management are sampled during each monthly survey. Smaller fishes are collected with both a 21.3-m seine and a 6.1-m otter trawl. FIM uses the 21.3-m seine (3.2-mm mesh) in water depths of 1.8 meters or less, while the trawl typically samples water depths of 1.8 meters or greater. Larger sub-adult and adult fishes are collected using 183-m haul (38-mm stretch mesh) seines in water depth of 3.0 meters or less. The two seine types sample shoreline habitats and open bay areas with both seagrass and non-vegetated bottom habitats. The trawl is typically deployed in deeper, open water habitats but is also deployed over deeper seagrass habitats. The entire suite of gear types and methods used by FIM captures fishes at various stages of development, from initial recruitment into the estuary through harvestable sizes, thereby providing a continuous gauge of a particular stock's relative abundance, age and size composition, and reproductive potential. However, the gear types used are not specifically designed to target dwarf seahorses.

Samples collected in Florida Bay were collected using a seasonal (April, June, August, and October) stratified-random sampling design, which included the use of the 21.3-m seine and the 6.1-m otter trawl. Data from these gear types were used to create length frequencies of *H. zosterae*, by regions in order to assess spatial distribution by size.

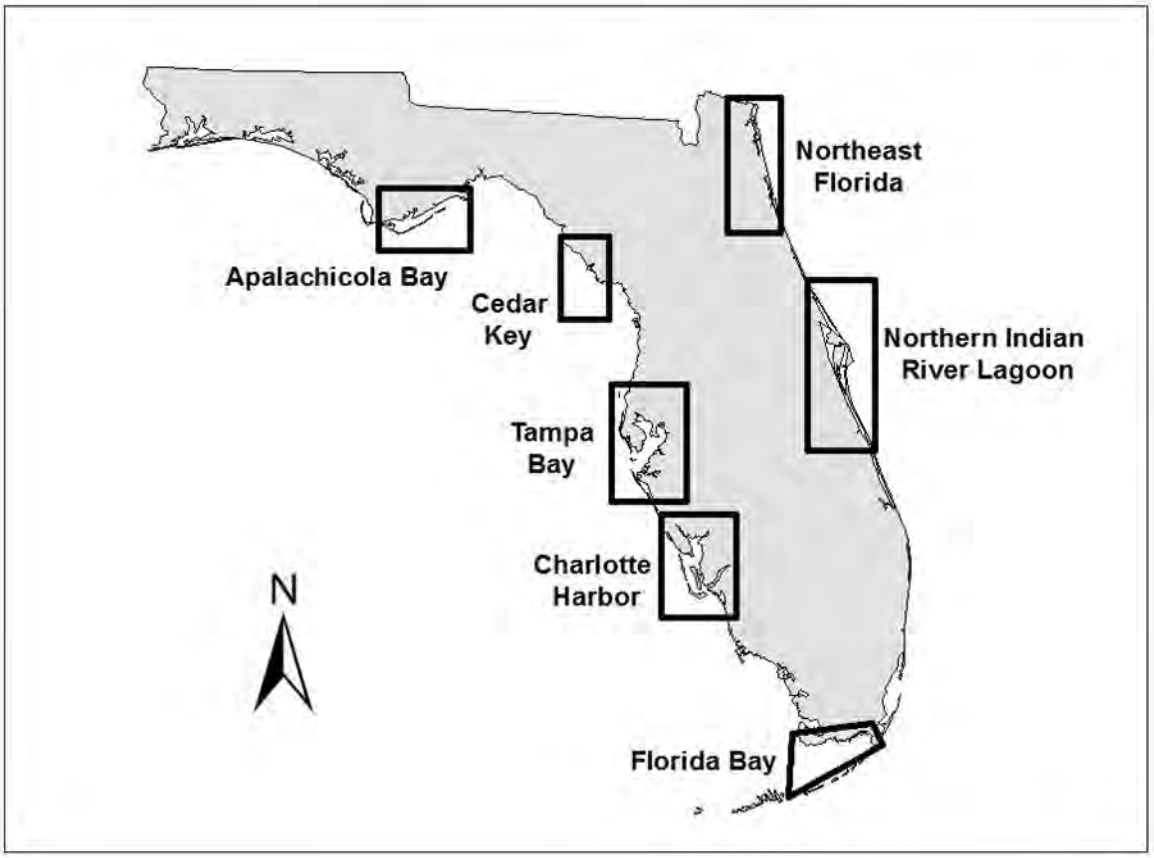

Figure 4: Locations of Fisheries-Independent Monitoring program field laboratories and study areas.

Spatial Distribution: *H. zosterae,* were collected from Cedar Key, Tampa Bay, Charlotte Harbor, Florida Bay, and Northern Indian River Lagoon. Except for the Cedar Key sample sites, all sampling was conducted in semi-enclosed estuarine systems. The greatest total catches (500 or more individuals) were in Charlotte Harbor and Tampa Bay on the Gulf coast and Florida Bay (Figure 5). This temperature limited species was found in the greatest abundance in Florida Bay (Figure 5).

Length Frequency Trends: *H. zosterae* appears to spawn year-round with the timing of peak young-of-the-year recruitment differing among estuaries (Figures 6 - 9). Young-of-the-year peak recruitment was observed in Tampa Bay (Figure 6) and Charlotte Harbor (Figure 7) between October and March. *Hippocampus zosterae* in the Northern Indian River Lagoon (Figure 8) had a shorter recruitment window compared to the other regions with peak recruitment occurring from October to November. Seasonal sampling in Florida Bay precludes an assessment of the entire recruitment season, but young-of-the-year were most prevalent in June (Figure 9; Dunham et al. in prep).

Summary: FIM surveys are not designed to specifically target dwarf seahorses in their sampling, therefore FIM data should be interpreted with caution in regard to dwarf seahorses. However, with that in mind, FIM data for Florida estuaries support the idea that dwarf seahorses are most abundant in the southern half of the Florida peninsula, especially Florida Bay. Historical data also indicate much greater abundance of this species in Florida Bay, Charlotte

Harbor, and Tampa Bay than in other parts of the state, which may be correlated to the high percentage (~66%) of coastal seagrass cover in southwest and south Florida (Yarbro and Carlson 2013). Data through 2016 for Tampa Bay and Charlotte Harbor indicate variable catch rates from 1996 through 2005 or 2006 and consistently low, but stable catch rates were noted from 2007 through 2014 with a slight increase from 2014 through 2016 for both estuaries. For consistency with the white paper, catch rates in Cedar Key were prepared, however, these indices are based on a very low number of animals (<0.5 animals/year) and should not be used to assess trends in abundance. Catch rates in the Northern Indian River Lagoon have been variable with minor changes in trend from 1999-2010 but declined to 0 in 2011, probably in association with a widespread loss of seagrass and drift algae in this area. Since then the relative abundance of this species has been low, and only one or two *H. zosterae* have been collected each year since 2014 (Figure 5). Data for Florida Bay indicate very high abundances of dwarf seahorses relative to other sampling locations from 2006 through 2009, when the most recent study in this area ended. While the apparently natural seagrass die-off in Florida Bay in the late 1980s and early 1990s likely affected dwarf seahorse populations in some parts of the bay, the seagrass recovered from that event (Yarbro and Carlson 2013), and the areas sampled by the FIM program from 2006 through 2009 exhibited higher abundances than other locations, suggesting the overall population size is likely still large in that region. An additional note regarding Florida Bay, although the general status of seagrasses is considered fairly stable and seagrass cover has remained remarkably stable over the past 25 years, unusually hot and dry conditions in summer 2015 resulted in high-salinity, anoxic bottom water, and high concentrations of sulfide in sediment porewaters, which in turn lead to seagrass die-off in two basins, Rankin Lake and Johnson Key Basin (Yarbro and Carlson 2013; updated 11/2015). The extent of the die-off and assessment of the potential for further losses are under investigation (Yarbro and Carlson 2013; updated 11/2015). November 2017 update: preliminary assessment results indicate an increase in seagrass growth in previously affected Florida Bay basins, however, Hurricane Irma passed through Florida Bay in September 2017 and caused some disturbance to seagrass coverage (P. Hall, FWRI, per. com). The disturbance is stated to be minor and overall seagrass coverage in Florida Bay is considered good (P. Hall, FWRI, per. comm.).

In general, abundances of *H. zosterae* remained at stable levels over the time series available for each estuary (Figure 5), with peak abundances occurring in different years in different estuaries. Most abundance trends at the end of the time series in 2016 were similar to long-term averages, except for Florida Bay (sampling ended in 2009) and decreasing abundances in the Northern Indian River Lagoon. The species has not shown much of an increase in numbers captured by the FIM program in that region since the seagrass die-off in 2011.

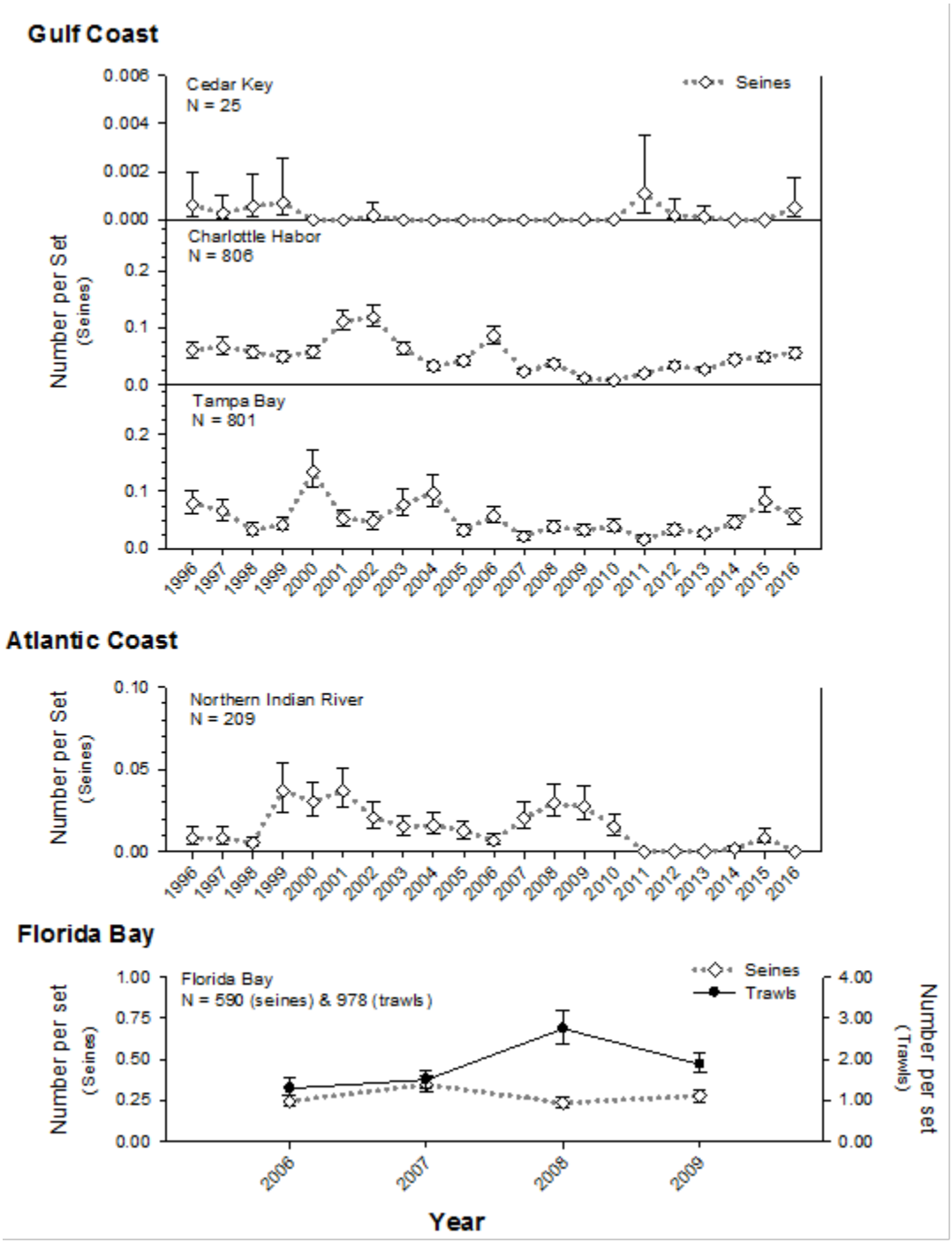

Figure 5: Long-term indices of abundance (IOAs) of *Hippocampus zosterae* from 1996 to 2016 in four estuarine systems in Florida. Data collected by the Fisheries-Independent Monitoring Program of the Florida Fish and Wildlife Conservation Commission. Trawls represented by the solid circles and solid lines, and seines represented by the open diamonds and dotted lines. Note the differences in scale among estuaries and between seines and trawls in axis for the Northern Indian River Lagoon and Florida Bay. Additional Note: Seasonal indices of abundance (IOAs) of *Hippocampus zosterae* from 2006 to 2009 in Florida Bay.

Length Frequency of *Hippocampus zosterae* in Tampa Bay

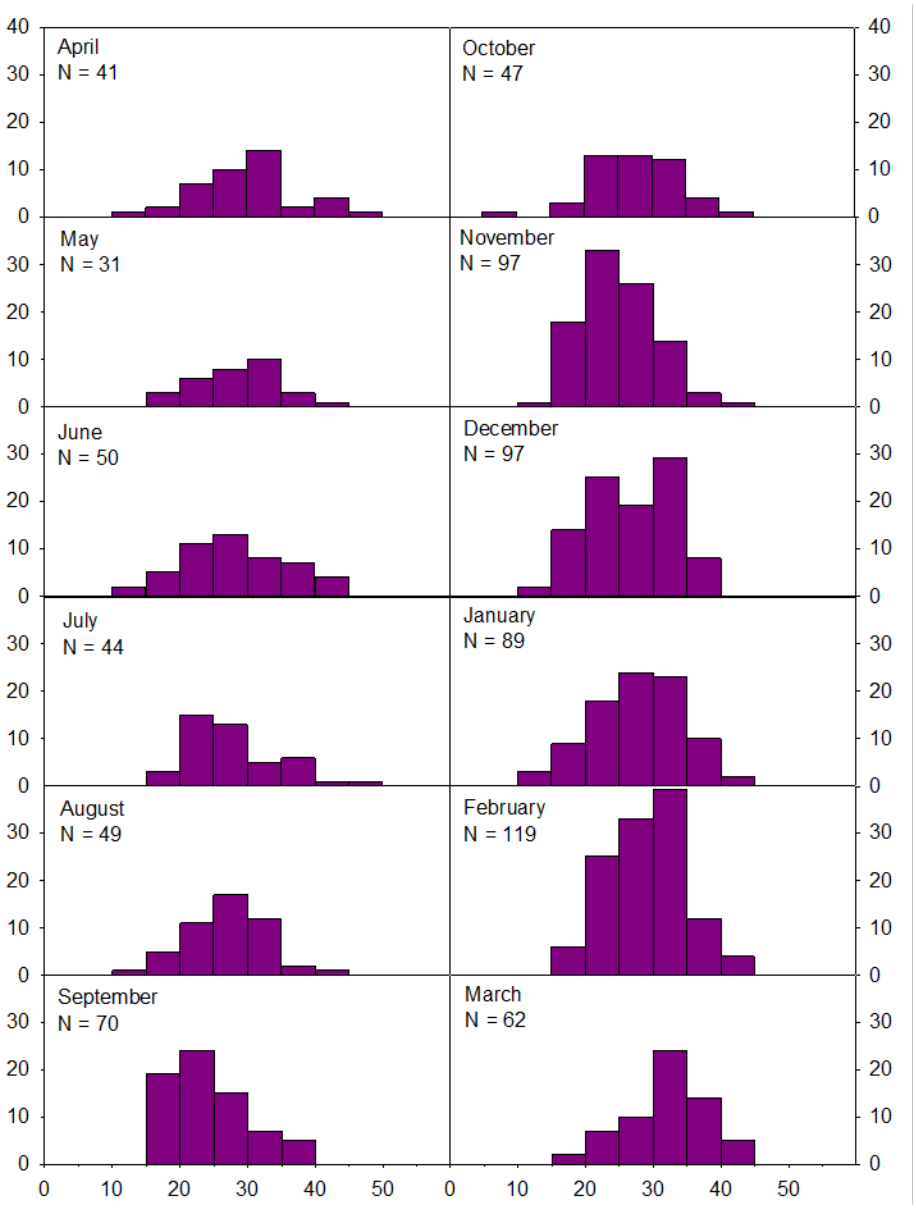

Figure 6: Length frequency distribution of *Hippocampus zosterae* collected by month from 1996 to 2016 in Tampa Bay, Florida. Data were collected using 21.3-m bay seines by the Fisheries-Independent Monitoring Program of the Florida Fish and Wildlife Conservation Commission.

Length Frequency of *Hippocampus zosterae* in Charlotte Harbor

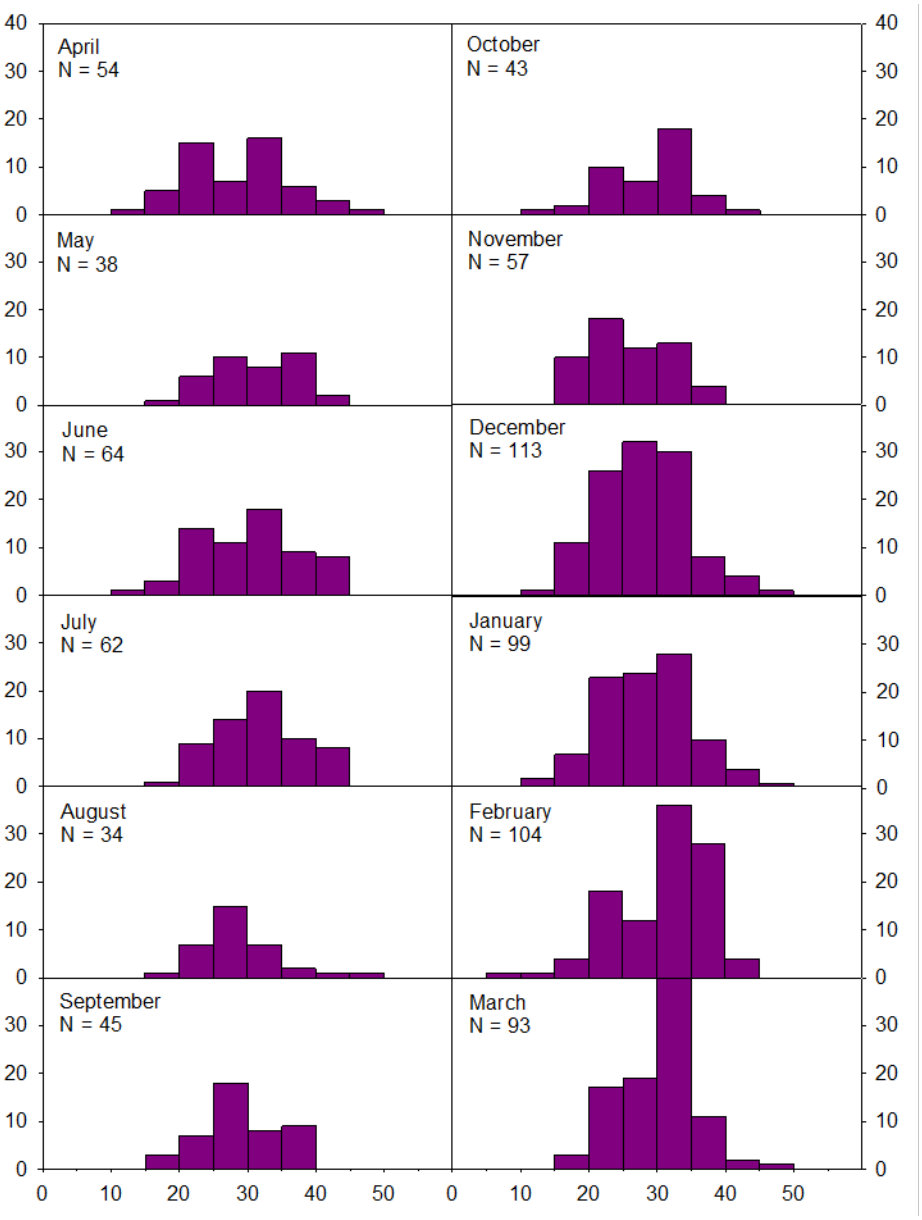

Figure 7: Length frequency distribution *Hippocampus zosterae* collected by month from 1996 to 2016 in Charlotte Harbor, Florida. Data were collected using 21.3-m bay seines by the Fisheries-Independent Monitoring Program of the Florida Fish and Wildlife Conservation Commission.

Length Frequency of *Hippocampus zosterae* in the Northern Indian River Lagoon

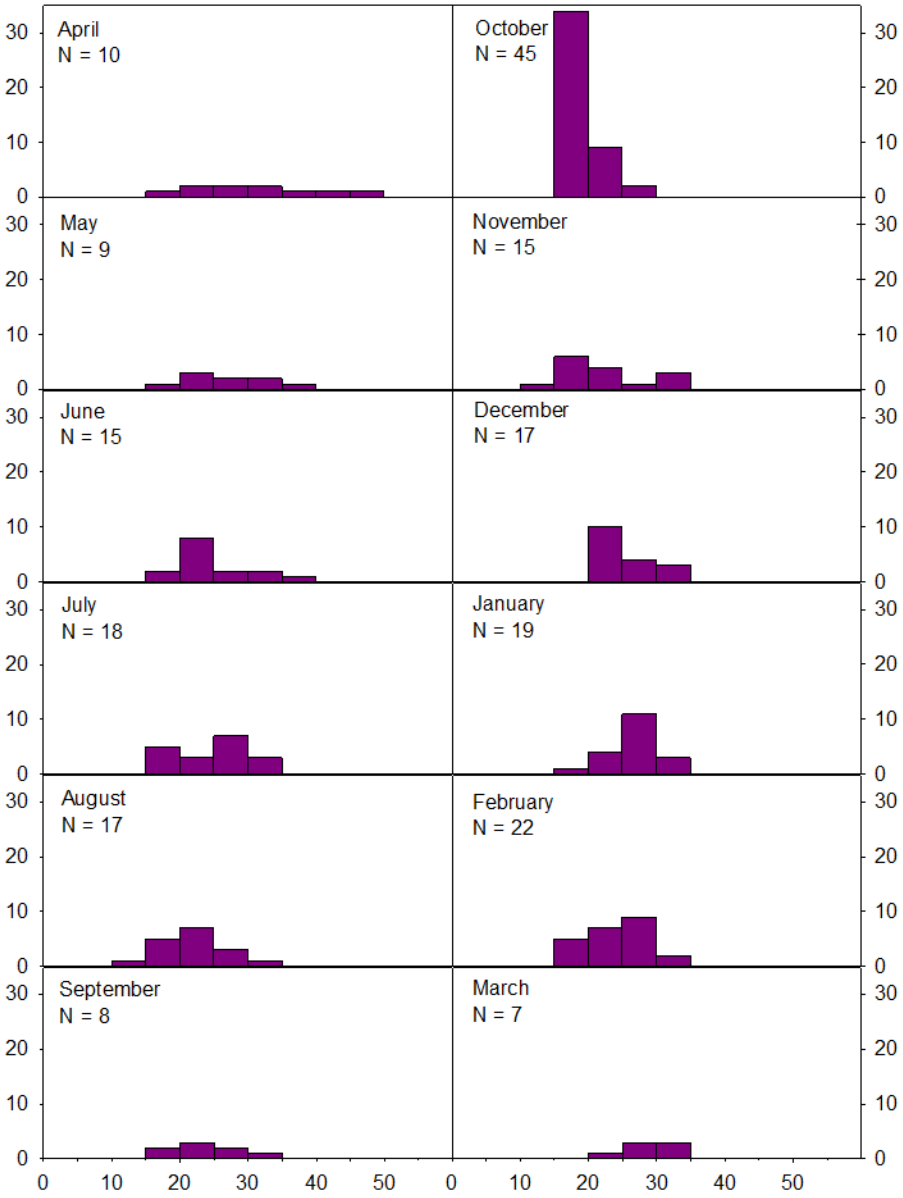

Figure 8: Length frequency distribution of *Hippocampus zosterae* collected by month from 1996 to 2016 in Northern Indian River Lagoon, Florida. Data were collected using 21.3-m bay seines by the Fisheries-Independent Monitoring Program of the Florida Fish and Wildlife Conservation Commission.

Length frequency distribution of *Hippocampus zosterae* in Florida Bay

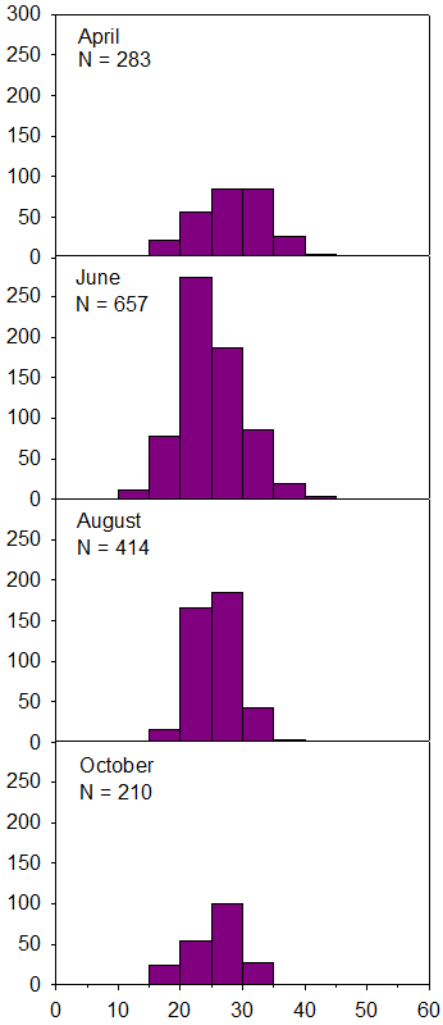

Figure 9: Seasonal length frequency distribution of *Hippocampus zosterae* collected by month from 2006 to 2009 in Florida Bay, Florida. Data collected using the combines 21.3-m bay seines and the 6.1-m otter trawl sets by the Fisheries-Independent Monitoring Program of the Florida Fish and Wildlife Conservation Commission.

References

Dunham, N.M., Matheson, R.E., and McMichael, R.H. (2017) Distribution, Abundance, and Habitat Associations of *Hippocampus erectus* and *Hippocampus zosterae* in Florida's estuaries. In prep.

Attachment 2. Summary of Responses from States to CITES Notification 2020/015 for Seahorses *

State	Does your agency allow harvest of any species within the genus *Hippocampus*?	Are there specific regulations that would be applicable to this genus?	Are there data on legal or illegal international trade of this genus?	Do you have any other information on harvest, regulation or trade of *Hippocampus*?
Alabama	Yes, provided the angler has the standard commercial/recreational fishing license that authorizes their activity	No	None that are maintained by Alabama Marine Resources Division	We do not have any landings data for seahorses and we do not track landings for the aquarium trade. However, we record length, weight, and abundance of seahorses when we catch them in our fishery-independent monitoring program.
California	Ocean sport fishing regulations would allow for harvest if one has a fishing license	For collection of the animal for scientific work or public display	Not that we know of	We can provide regulations about aquaculture permits and scientific collecting permits as well as general sport fishing regulation.
Mississippi	The Mississippi Department of Marine Resources (MDMR) does not have any regulations that would prevent the harvest of any species in the *Hippocampus* genus	The MDMR does not have any regulations that would prevent the harvest of any species in the *Hippocampus* genus.	The MDMR does not have any data on the legal or illegal international trade of the genus *Hippocampus*.	The MDMR has no information of harvest, regulation, or trade of *Hippocampus*.
Georgia	Yes, by default, as they do not prohibit it.	No	No	They have none.
Louisiana	Yes, by default, as they do not prohibit it.	No	No	They have none.
South Carolina	Yes, but there is no directed fishery that we are aware off. There may be some bycatch in the shrimp trawl fishery but no reported landings appear in our commercial databases.	No	As mentioned above we have no data of any commercial activity.	As a rule, we do not issue collection permits for individuals to collect animals for the aquarium trade. However, we do issue scientific collection permits to university faculty and graduate students for research projects and the state's 3 public aquariums to collect a number of different species to support their internal operations but not for trade. At present, none of these active permits specifically mentions seahorses.
Texas	Yes, Hippocampus species would be considered “aquatic products”	No, TPWD currently does not have any regulations that specifically pertain to Hippocampus species.	No, to my knowledge, TPWD currently does not have any data on the legal or illegal international trade of Hippocampus species	No

*For more information, please contact Ms. Deborah Hahn, International Relations Director, Association of Fish and Wildlife Agencies, 1100 First Street, NE, Suite 825, Washington, DC 20002 USA PH: (+1 202-838-3458), email: DHahn@fishwildlife.org

U.S. Fish and Wildlife Service
Division of Scientific Authority
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
Record of Advice on Export Permit Application

Application number: 67021d Date DSA: 1/24/2020

DMA Contact: Kirstine Grab

Applicant: [redacted], Florida

Specimens and species: 200 Dwarf seahorse (*Hippocampus zosterae*); wild caught, live specimens

Source of Specimens: Wild caught (after permit is issued)

Recipient: [redacted] Netherlands

Type of permit: Appendix II export

ADVICE
After examining the above permit application, we find that the proposed export will **not be detrimental** to the survival of the species.

Background
The genus *Hippocampus* was listed in CITES Appendix II in 2002, with an effective date of May 15, 2004 (UNEP 2020; CoP12 Prop. 37). International trade in seahorses is primarily for live specimens used in the aquarium trade, specimens used in traditional medicine and as curios (Project Seahorse 2003; Masonjones et al. 2017). At the 20th meeting of the Animals Committee (Johnnesburg, 2004) the committee agreed that specimens of wild-caught *Hippocampus* for international trade should have a minimum height of 4 inches (10cm) (Notification No. 2004/033), however, as stated in this Notification, "The use of this minimum size limit for specimens of wild origin in trade is voluntary". For seahorses, size is a better indicator of sexual maturity than age (Foster & Vincent 2004) and this value was determined to be the most appropriate size to allow the majority of seahorse species to reach reproductive age prior to harvest. The Animals Committee also noted that for smaller species, such as the dwarf seahorse (*Hippocampus zosterae*), due to their overall smaller size at maturity, Parties may wish to determine other methods to make non-detriment findings. This finding therefore is based on the

fact that the average size of the dwarf seahorse is between 2-2.5 cm, with some individuals reaching 5cm in length, and that to insure that the export of these specimens will not be detrimental to the survival of the species, all specimens collected for export under this permit should be equal to or greater than 3/4 in (2 cm) in height, as measured from the tip of the coronet to the end of the unfurled tail.

Dwarf seahorses (*Hippocampus zosterae*) are native to the Gulf of Mexico and the Bahamas. The IUCN Red List rating for this species is Least Concern and the population appears to be stable (Masonjones et al. 2017). Currently, *H. zosterae* is being evaluated under the ESA for potential listing. A preliminary evaluation indicated that there was sufficient information available to warrant a full review and all comments and data which parties wished to submit for consideration in this review were due by July 3, 2012 (77 FR 26478). As of February 10, 2020, a final determination is still pending.

In Florida wild-caught seahorses are regulated by the Florida Fish and Wildlife Commission, Florida Division of Marine Fisheries Management as authorized in Chapter 68B-42 of the Florida Administrative Code (https://www.flrules.org/gateway/ChapterHome.asp?Chapter=68B-42). These codes outline regulations which must be followed in order to legally harvest marine life in Florida waters. The code indicates a maximum daily harvest limit of 400 individuals for the dwarf seahorse (*Hippocampus zosterae*). These codes also indicate that those who commercially harvest seahorses in Florida waters are required to possess a Commercial Saltwater Products License (SPL) with the Restricted Species (RS) and Marine Life Dive Permit (MLD) endorsements. Wholesalers and Retailers are required to obtain separate Saltwater Products Licenses.

In November 2015 Florida proposed changes to its commercial harvest quota for the dwarf seahorse. This change, if implemented, would reduce the current 400 individuals/day quota to a 200 individuals/day quota per boat or per individual, whichever is less. This proposed regulation change is currently in the public review period and a final public hearing was to be scheduled sometime in February, 2016. To date (2/10/2020) there have been no changes to the commercial harvest quota of 400 individuals/day.

Basis for advice

1) The applicant, [redacted] requests authorization to export 200 live, wild-caught dwarf seahorses (*Hippocampus zosterae*) to [redacted] in [redacted], Netherlands. This export is for commercial purposes.

2) [redacted], of [redacted], Florida is a Federally Licensed Wildlife Importer/Exporter and is properly licensed in Florida with a valid SPL including the RS and MLD endorsements. They also hold current Florida Saltwater Products Wholesale and Retail licenses. In addition, they maintain a current Florida Saltwater Products Vessel Decal for each of their harvesting vessels. The applicant therefor holds all permits required by the Florida Division of Marine Fisheries Management to harvest wild seahorses in Florida waters and has in the past received several seahorse export permits from this office. Their current application

requests authorization to export no more individuals than are permitted by the state of Florida to be harvested from the wild in one day.

3) The specimens to be exported are native to the west-central Atlantic and Caribbean, and in the United States are native to Florida coastal waters. The specimens will be collected from the wild, in Monroe County Florida, under Florida permitting and licensing authority, only after this export permit has been issued. Collections should be made with special consideration given, as noted in the conditions, to avoiding collection of brooding males, to not deplete local populations during harvest, and to ensure only individuals meeting the required minimum size are harvested. Once collected, the specimens will be maintained at the [redacted] facility in [redacted] Florida for approximately one week prior to shipment.

Based on the above information, and the fact that this applicant has provided the reports required under previous permits, we conclude that the 200 specimens to be exported are wild-caught by a licensed and permitted fisherperson, and that their export will **not be detrimental** to the survival of the species, as long as the conditions stipulated in this finding are met.

PERMIT CONDITIONS (3)

1. The applicant may export only dwarf seahorses (*Hippocampus zosterae*) equal to or greater than 3/4 in (2 cm) in height. Height is measured from the top of the coronet to the tip of the straightened tail. Care should be taken when unfurling the tails.

2. Collection of brooding (pregnant) males should be avoided. While it can occasionally be difficult to distinguish brooding seahorses, we recommend that the applicant take note of the tendency for brooding males to congregate in local areas.

3. Care should be taken not to deplete a local colony during harvest.

REPORTING REQUIREMENTS (3)

Within two weeks of export, please submit to DMA a report that includes the following information regarding the specimens that were exported under this permit:

1. A copy of the trip ticket(s) associated with the specimens that were exported under this permit (identifying the permit number with the trip ticket).

2. Catch per unit effort (i.e., the amount of time needed to catch the specimens, and the number of specimens caught in that amount of time, and the sex of all mature specimens).

3. Mortality rate of specimens collected, including mortality from harvest to export, and any reported mortality from export to arrival of specimens to recipient. Also, please report the sex of each mature specimen which dies.

References
CoP12 Prop. 37. 2002. Inclusion of all species of the genus *Hippocampus* (*Hippocampus* spp.) in Appendix II of CITES. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)-Twelfth meeting of the Conference of the Parties. 26 pp..

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[redacted] 2/11/2020

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[redacted] 2/11/2020

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To be filed in: DSA\Findings\Animal\Exports\67021d – Export _ dwarf seahorses _ Dynasty Marine.docx

U.S. Fish and Wildlife Service
Division of Scientific Authority
Convention on International Trade in Endangered Species of Wild Fauna and Flora
(CITES)
Record of Advice on Export Permit Application

Application Number: 86927c DSA Date: 5/3/2018

DMA Contact: Robert Williams

Applicant: [redacted]

Specimens and Species: 115 dwarf sea horses (*Hippocampus zosterae*)
12 lined sea horses (*Hippocampus erectus*)

Source of Specimens: Wild caught

Recipient: [redacted]

Type of Permit: Appendix II Export

ADVICE
After examining the above permit application, we find that the proposed export will **not be detrimental** to the survival of the species.

Background
The genus *Hippocampus* was included in CITES Appendix II in 2002, with an effective date of May 15, 2004 (CoP12 Prop. 37; UNEP-WCMC 2018). International trade in seahorses is primarily for live specimens used in the aquarium trade, specimens used in traditional medicine and as curios (Pollom 2017). At the 20th meeting of the Animals Committee (Johnnesburg, 2004) the committee agreed that specimens of wild-caught *Hippocampus* for international trade should have a minimum height of 4 inches (10cm) (Notification No. 2004/033), however, as stated in this Notification, "The use of this minimum size limit for specimens of wild origin in trade is voluntary". For seahorses, size is a better indicator of sexual maturity than age (Foster & Vincent 2004) and this value was determined to be the most appropriate size to allow the majority of seahorse species to reach reproductive age prior to harvest. The Animals Committee also noted that for smaller species, such as the dwarf seahorse (*Hippocampus zosterae*), due to their overall smaller size at maturity, Parties may wish to determine other methods to make non-detriment findings. This finding therefore is based on the fact that the average size of the dwarf seahorse is between 2-2.5 cm, with some individuals reaching 5cm in length, and that to insure that the export of these specimens will not be detrimental to the survival of the species, all specimens collected for export under this permit should be equal to or greater than 3/4 in (2 cm)

in height, as measured from the tip of the coronet to the end of the unfurled tail.

Dwarf seahorses (*Hippocampus zosterae*) are native to the Gulf of Mexico and the Bahamas. The IUCN Red List classification for this species is Least Concern (Masonjones et al. 2017). Currently, *H. zosterae* is being evaluated under the ESA for potential listing. A preliminary evaluation indicated that there was sufficient information available to warrant a full review and all comments and data which parties wished to submit for consideration in this review were due by July 3, 2012. As of May 22, 2018 a final determination is still pending.

In November 2015 Florida proposed changes to its commercial harvest quota for the dwarf seahorse. This change, if implemented, would reduce the current 400 individuals/day quota to a 200 individuals/day quota per boat or per individual, whichever is less. This proposed regulation change has gone through two public review periods and a final decision will be made once the pending ESA determination is made (Masonjones et al. 2017). To date (5/22/2018) there have been no changes to the commercial harvest quota of 400 individuals/day.

Lined seahorses (*Hippocampus erectus*) are native to the southwestern to northwestern Atlantic. In the wild, the species reaches a full grown length of about 12.5 cm and lives for almost five years; it becomes mature in approximately nine months. Broods of the lined seahorse range from 250 to 650, depending on the size of the adult, and hatch after an incubation period of about 20 days. In the wild, the species breeds from roughly February/March until late October, depending on water temperature (Gardiner 2001; Pollom 2017).

The lined seahorse, like the dwarf seahorse, was included in CITES Appendix II in 2002 under the *Hippocampus* genus listing (CoP12 Prop. 37). In 2017, the lined seahorse was classified as Vulnerable, with a decreasing population, on the IUCN Red List (Pollom 2017).

In Florida wild-caught seahorses are regulated by the Florida Fish and Wildlife Commission, Florida Division of Marine Fisheries Management as authorized in Chapter 68B-42 of the Florida Administrative Code (https://www.flrules.org/gateway/ChapterHome.asp?Chapter=68B-42). These codes outline regulations which must be followed in order to legally harvest marine life in Florida waters. The code indicates no harvest limit for the lined seahorse (*Hippocampus erectus*) and it establishes a maximum daily harvest limit of 400 individuals for the dwarf seahorse (*Hippocampus zosterae*). These codes also indicate that those who commercially harvest seahorses in Florida waters are required to possess a Commercial Saltwater Products License (SPL) with the Restricted Species (RS) and Marine Life Dive Permit (MLD) endorsements. Wholesalers and Retailers are required to obtain separate Saltwater Products Licenses.

Basis for Advice

1) The applicant, [redacted], requests authorization to export 115 dwarf sea horses (*Hippocampus zosterae*) and 12 lined sea horses (*Hippocampus erectus*) to [redacted] the United Kingdom. While his last permit required that he provide a trip ticket documenting his catch to the State of Florida, the applicant canceled this permit and so no harvest occurred. This export is for commercial purposes.

2) According to the documentation provided by the applicant, [redacted] is a Federally Licensed Wildlife Importer/Exporter and is properly licensed in Florida with a valid SPL including the RS and MLD endorsements. He also holds current Florida Saltwater Products Wholesale and Retail licenses. In addition, he maintains a current Florida Saltwater Products Vessel Decal for the primary harvesting vessel. The applicant therefor holds all permits required by the Florida Division of Marine Fisheries Management to harvest wild seahorses in Florida waters and has in the past received seahorse export permits from this office. His current application requests authorization to export fewer individuals than are permitted by the state of Florida to be harvested from the wild in one day. He is also legally permitted by the U.S. Fish and Wildlife Service to Import and Export wildlife and wildlife products.

3) The specimens to be exported are native to the west-central Atlantic, and in the United States are native to Florida coastal waters. The specimens will be collected from the wild in the Bay of Florida between Big Pine Key and Anett Key basin to Cowpens's basin in Monroe County, Florida; collections are authorized under Florida permitting and licensing authority, only after this export permit has been issued. Collections will be made with special consideration given, as noted in the application, to avoid collection of brooding males, to not deplete local populations during harvest, and to ensure only individual meeting the required minimum size are harvested. Once collected, the specimens will be maintained at [redacted]' facility in [redacted], Florida for up to 30 days prior to shipment.

Therefore, based on the information provided by the applicant, we conclude that the specimens to be exported are wild-caught by a licensed and permitted harvester, and that their export will **not be detrimental** to the survival of the species, provided the permit conditions and reporting requirements listed below are followed.

PERMIT CONDITIONS (3):

1. For dwarf seahorses, the applicant may export only adult dwarf seahorses (*Hippocampus zosterae*) equal to or greater than 3/4 in (2 cm) in height. Height is measured from the top of the coronet to the tip of the straightened tail. Care should be taken when unfurling the tails.

2. For both the lined seahorses and dwarf seahorses, collection of brooding (pregnant) males should be avoided. While it can occasionally be difficult to distinguish brooding seahorses, we recommend that the applicant take note of the tendency for brooding males to congregate in local areas.

3. For both the lined seahorses and dwarf seahorses, care should be taken not to deplete a local colony during harvest.

REPORTING REQUIREMENTS (3):

Within two weeks of export, please submit to DMA a report that includes the following information regarding the specimens that were exported under this permit:

1. A copy of the trip ticket(s) associated with the specimens that were exported under this permit.

2. Catch per unit effort (i.e., the amount of time needed to catch the specimens, and the number of specimens caught in that amount of time, and the sex of all mature specimens).

3. Mortality rate of specimens collected, including mortality from harvest to export, and any reported mortality from export to arrival of specimens to recipient. Also, please report the sex of each mature specimen which dies.

[redacted] 5/23/18

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Biologist
Division of Scientific Authority

[redacted] 5/23/18

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To be filed in: DSA\Findings\Animal\Export\86927c - Export _ lined and dwarf seahorses _ W Samples.docx

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