Aloha,

When attempting to manage natural resources—like Hawaiian coral reefs—that exhibit a high degree of environmental complexity and equally are influenced by multiple human activities, difficulty can rapidly arise. Often, incapacity to discern environmental variability from the effects of human activities like fishing can lead to disagreement and controversy over fishery regulation. The latest product of such controversy is Hawai‘i Senate Bill No. 3225, which imposes bag limits on certain species of ornamental fish and completely prohibits the collection of others. Although current regulations specific to the collection of aquarium fish are negligible and restrictions may be warranted to limit the individual size, number, season, or particular species collected, the mandates outlined by this hastily-proposed legislation are clearly intended to destabilize the Hawaiian aquarium fishery and the livelihoods of associated stakeholders rather than to produce helpful resource management solutions. The passing of this bill in its current form would haphazardly abandon decades of legislative progress in Hawai‘i and, without considering the latest scientific evidence, carelessly undermine the most economically significant inshore fishery in the state [valued at $3.2 million in FY2002 (DAR 2002)].

The following points must be considered when evaluating the efficacy of S.B. 3225, as it is currently structured:

1.) Restricting the commercial collection of marine ornamental fishes to such numbers would effectively bring the fishery to a standstill, undermining over a decade of labor-intensive, sustainable resource legislation and related progress [*i.e.* the passing of House Bill 3457 (Act 306), subsequent enforcement provisions, and the establishment of the West Hawai‘i Regional Fisheries Management Area with its network of Fish Replenishment Areas (FRAs)].

2.) By distinguishing aquarium fishing as the sole cause of adverse fluctuations in coral reef fish populations, S.B. 3225 discounts the inherent complexity of coral reef environments that must be understood in order effectively manage associated resources. Areas of ecological uncertainty associated with coral reef environments include overall productivity, life cycles of targeted species, spawning seasonality, larval dispersal, patterns of recruitment, species interactions, species abundance, and historic conditions. These environmental and ecological influences are capable of generating effects similar to those produced by fishing. Furthermore, nearshore human activities other than aquarium collection—such as destructive gear and by-catch from other nearshore fisheries, alien species, coastal development, tourism, and pollution—can ultimately impact the abundance of species more adversely than the temporary effects of aquarium fishing. For those making decisions on resource allocation or investments that influence marine aquarium fisheries, it is critical to consider all nearshore human activities capable of causing adverse fluctuations in the abundance of species captured for the aquarium trade.

3.) S.B. 3225 restrictions on the collection of specific ornamental species lack scientific substantiation and undercut DAR initiatives to manage coastal resources based on the best scientific information available. For specific ornamental fishes mentioned in S.B. 3225, section (a), such as yellow tang (*Zebrasoma flavescens*), flame angelfish (*Centropyge loriculus*), and “butterfly” (which we assume refers to butterflyfishes, or the family *Chaetodontidae*) existing and newly-gathered data must be more rigorously analyzed by DAR in order to discern whether bag limitations on those particular species should be recommended.

4.) No criteria are provided for fishes identified as “no-take” species, and current efforts by the West Hawai‘i Fishery Council Species of Special Concern Subcommittee to identify these criteria are not acknowledged. The West Hawai‘i Fisheries Council Species of Special Concern Subcommittee (SSCS), chartered in late 2006, is presently engaged in outlining concerns for West Hawai‘i reef species impacted by aquarium fishing and other marine activities, and is now considering whether to recommend restrictions on the extractive use of certain ‘species of special concern’ in West Hawai‘i. Species may be identified based upon criteria such as rarity, specialized habitat, poor aquarium survivorship, declining trends in abundance, ecosystem importance and ecological services, and value to tourism and recreation. S.B. 3225 prevents further progress by the SSCS to solicit the involvement of resource users and other

industry participants to develop official criteria and subsequent management recommendations based on those criteria. No specific reasons are offered for "no-take" species identified in the bill, such as pufferfishes (*Tetraodontidae, Canthigasterinae*), boxfishes (*Ostraciidae*), eels (*Muraeninae*), and coral-eating species (such as butterflyfishes and parrotfishes). For explicit species mentioned, such as Potter's angelfish (*Centropyge potteri*) and the Hawaiian cleaner wrasse (*Labroides phthirophagus*), further research may be warranted before policies prohibit their capture. Case in point, new information being prepared in a University of Hawai'i at Hilo thesis study for Potter's angelfish, a 2007 rebound in mean abundance of this species in West Hawai'i to numbers greater than those seen in 1999, and seven years of data showing a *greater* abundance of *C. potteri* in areas *open* to aquarium fishing on the Big Island illustrate the need for further investigation.

5.) This bill presumes that bag limits are the most effective means of managing ornamental reef fishes, and does not take into consideration other fishery management tools—such as limited entry or an extension of the current system of fish replenishment areas—which may be more effective in addressing overall fishery concerns. Almost a decade of scientific evidence collected by the DLNR now suggests that the network of FRAs mandated by Act 306 has been effective in promoting the recovery of heavily-exploited fish stocks in Hawai'i. In 2004, DAR reported that, from baseline assessments, the established FRAs had proven effective in yielding increased abundance for several targeted fishes. Some species have even experienced increases outside the FRAs, indicating possible 'spill-over' effects. The creation of a limited-entry fishery is currently under investigation by the West Hawai'i Fisheries Council. Overall management of aquarium species throughout the Main Hawaiian Islands should be based on what has been previously proven effective. West Hawai'i's existing system of FRAs, in conjunction with a limited-entry system and species-specific regulations (when necessary) may well surpass bag limits as an effective systematic solution.

6.) S.B. 3225 does not anticipate the probable limitations in enforcement capacity by DOCARE. Bag limits on reef fishes collected commercially for the marine aquarium industry would only be effective if they could be very strictly enforced. The Hawai'i Division of Conservation and Resources Enforcement (DOCARE)—whose agents are currently taxed with enforcing various other state laws and rules involving historic sites, forest reserves, aquatic life and wildlife areas, coastal zones, conservation districts, and county parks—would be required to take on this additional responsibility for which they may lack the necessary manpower and resources to implement.

We must consider that, if we continue to ensure the sustainable use of our coastal resources through appropriate management action, the marine aquarium fishery in the Hawaiian Islands will serve as a model to the greater Pacific region where collection of ornamental species is practiced. Since Hawaiian aquarium fishes are captured using small-mesh fence and hand nets rather than harmful explosives or chemicals, a high survival rate is generally ensured for the collected animals when compared with tropical fisheries that employ destructive methods such as cyanide fishing. If years of progress were dismissed and a complete shut down of the fishery were to occur, a great shift in demand would follow, supporting Indo-Pacific nations whose policies continue to allow the employment of unsustainable fishing practices. This would only accelerate the destruction of coral reefs worldwide.

I would urge all resource users, industry participants, scientists, conservationists, and concerned citizens to voice their opposition to this bill, as it would be an irresponsible and ineffective policy.

Mahalo,

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TO VOICE YOUR OPPOSITION TO THIS BILL, PLEASE CONTACT SENATOR CLAYTON HEE AT THE ADDRESS, PHONE NUMBER, OR E-MAIL ADDRESS PROVIDED BELOW:

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