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Community-Based Management of a Hawai`i Aquarium Fishery

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ABSTRACT

Commercial marine aquarium collecting is controversial in West Hawai`i. Competing uses and reports of declining reef fish populations prompted several attempts to regulate the fishery. Management efforts led to a community-based legislative mandate establishing a minimum of 30% of the West Hawai`i Coastline as no aquarium collecting "Fish Replenishment Areas."

Keywords: Aquarium collecting, Community-based management, Marine protected Areas, Fish Replenishment Areas, West Hawai`i Fisheries Council

A Review

Aquarium collecting in Hawai`i has a long contentious history. As early as 1973, public concern over collecting activities prompted the Division of Fish and Game to suspend the issuance of Aquarium Fish Permits. Regulation of fine mesh aquarium nets and permit issuance began twenty years earlier. The suspension was lifted one week later to enable Fish and Game to investigate alleged reef fish declines without disrupting the activities of tropical fish aquarists. Aquarium permittees were also required at this time to submit monthly fish catch reports.

Shortly after the suspension was lifted, the State Animal Species Advisory Commission recommended restricting issuance of aquarium fish permits pending full and extensive study. University marine scientists further recommended the establishment of sanctuaries to prohibit collecting within their confines. No studies were conducted and no sanctuary areas were established.

Five years later a Hawai`i Sea Grant conference on tropical reef fish was held in Kona, Hawai`i, where a state Fish and Game biologist noted there had been a dramatic increase in the number of aquarium fish permits issued in recent years. He stated the Division had been compiling aquarium fish catch data since 1973 but the reliability of these data depended upon the sincerity of the permittees. The biggest problem was the analysis of the data. "Only adequate funding will allow us to make a complete evaluation of these data" (Katekaru, 1978).

Fish and Game paid little attention to aquarium collecting for almost 10 years. Meanwhile the number of collectors in West Hawai`i continued to increase, and conflict escalated particularly between dive tour operators and collectors. This conflict led to a meeting of the two groups in 1987. Encouraged by Sea Grant and the Division of Aquatic Resources (DAR), formerly the Division of Fish and Game, an informal year-to-year "Gentleperson's Agreement" was negotiated. Aquarium

collectors agreed to refrain from collecting in certain areas, and charter operators agreed not to initiate legislation to restrict collecting and to cease harassment. Four areas totaling approximately 6.4km were agreed upon. According to tour operators the agreement worked reasonably well for about six months in spite of a small number of collectors refusing to abide by its terms.

When the agreement expired the next year, collectors reportedly resumed collecting in the previously closed areas. Meetings were held in 1988 to reinstate the agreement and to permanently close previously closed areas. No agreement was reached on additional closed areas nor for further controls on collectors. The Gentleperson's Agreement areas were formalized as the Kona Coast Fisheries Management Area (FMA) zones which became effective October 1991. The following year an independent initiative established a 2.1km Marine Life Conservation District (MLCD) in Kona. MLCDs generally prohibit any taking of marine life.

Controversy and conflict over aquarium collecting continued unabated, however. Various meetings and legislative resolutions and bills attempted to address the issue. A 1996 resolution directed DAR, in conjunction with a task force convened to assist them, to develop a comprehensive management plan to regulate the collection of aquarium fish.

Thus was born the **West Hawai'i Reef Fish Working Group (WHRFWG)** which held its first meeting May 1996. Individuals from various West Hawai'i constituency groups were invited to participate. DAR & Sea Grant made a determined effort to have representation from each reef resource user group. Others who became aware of the group by word of mouth or through the newspaper were also welcomed to participate. At least 70 members of the West Hawai'i community were involved. The group, led by a trained facilitator, held nine meetings over a 15-month period. Information to assist decision making was presented by scientists, resource management experts, and Hawaiian community members

The WHRFWG accomplished a number of objectives. It opened dialog between user groups and community members. It provided a forum for the education of its members on a wide range of biological and social issues involved in resource management including aquarium collecting. The group identified coastal "hot spots" where conflict over ocean resources were especially intense and proposed management recommendations. With the assistance of a DAR biologist, two local communities proposed more comprehensive management rules for their communities. DAR commenced a joint research project with the University of Hawai'i Hilo (UHH) to finally begin to investigate the biological impact of collecting.

Unfortunately, due in part to legislative inertia and to opposition by aquarium collectors outside of West Hawai'i, only one WHRFWG legislative recommendation passed, i.e., establishing licenses for aquarium exporters. Similarly, management initiatives for the local communities languished.

In response to the perceived lack of adequately dealing with aquarium collecting, a number of citizens, including several members of the WHRFWG formed a grassroots organization, the **Lost Fish Coalition (LFC)**, to push for a ban on aquarium collecting in West Hawai'i. They collected almost 4000 signatures on a petition to ban collecting. In January 1997 a bill was introduced in the State Legislature to accomplish this objective. Shortly thereafter another bill was introduced to establish a West Hawai'i Regional Fishery Management Area along the entire West Hawai'i coast of 235km. Among several provisions of this bill was a requirement to set aside 50% of the FMA as Fish Replenishment Areas (FRAs) where aquarium collecting would be prohibited. In February 1998 the bill calling for a total ban was killed. During committee hearings of the other bill, the 50% provision for FRAs was reduced to "a minimum of 30%." Aquarium collectors and other user groups endorsed this bill. It was approved by the legislature and ultimately became Act 306, effective 13 July 1998.

The purposes of Act 306 include (1) effectively managing fishery activities to ensure sustainability; (2) enhancing nearshore resources; and (3) minimizing conflicts of use in this coastal

area. It also mandated the designation of “a minimum of 30%” of West Hawai`i coastal waters as FRAs. The Act directed DAR to identify these areas “after close consultation and facilitated dialogue with working groups of community members and resource users.” A review every five years of the effectiveness of the West Hawai`i Regional Fishery Management Areas was also mandated.

The specific wording of “a minimum of 30%” was based upon studies by Dr. James Bohnsack and the South Atlantic Fishery Management Council. With regard to Marine Fishery Reserves (MFR) they recommended that “fishery reserves be established for 20% of the habitat while other traditional fishery management practices be applied to the other 80% of the habitat. Without adequate management in fished areas, we recommend that MRFs be increased to include *at least* (emphasis added) 30% of the shelf” (Bohnsack, 1990). In testimony in support of the bill, noted Hawai`i ichthyologist Dr. Jack Randall supported this minimum percentage by stating “Studies on coral reef management have shown that 30% is the minimum to set aside as reserves” (Randall, 1998).

In order to accomplish the mandates of Act 306 with substantive community input, a council approach was decided upon. As a starting point, an organizing group from DAR and Sea Grant reviewed the roster of the earlier West Hawai`i Reef Fish Working Group. They attempted to assemble a council with broad geographic representation and which represented the various stakeholder, community and user groups in West Hawai`i. It was believed the efforts of this earlier group would prove highly beneficial to the task. A working document of Operational Practices & Procedures was developed to serve as a vehicle for decision making.

The **West Hawai`i Fisheries Council** (WHFC-initially called the West Hawai`i Fishery Management Council) was convened June 1998. It consisted of 24 voting members and six ex-officio Agency representatives (DAR, Boating, Enforcement, Sea Grant, and the Governor’s Office). There were four aquarium representatives (three collectors, one aquarium shop owner), three commercial dive tour operators, and one Hotelier. The rest of the Council consisted of a variety of overlapping and not easily definable interests. There were commercial and recreational fishermen (at least ten), shoreline gatherers, recreational divers, a LFC representative and several community representatives. Two community members had degrees in marine or fishery science. Forty percent of the council was Hawaiians, one being on the board of the Office of Hawaiian Affairs (OHA). Seven of the 30 Council members were not on the WHRFWG but were added to expand expertise and/or representation.

Prior to the beginning of the Council’s decision making, pertinent literature on marine protected areas, community-based resource management and scientific studies dealing with Hawai`i’s reefs and aquarium fish collecting was distilled for the Council into specific site selection criteria. The group discussed aspects of reserve design and function including minimum size, shape (e.g. single large or several small reserves?), location, enforceability and conflict reduction.

After site selection criteria were established each Council member was given a set of coastal maps. They were asked to gather information from their respective communities or user groups and then designate specific FRA locations. The importance of Council members conveying information during this process to their respective “constituents” was stressed repeatedly with emphasis on representing not only themselves but also more importantly, a particular user group or community. In several instances community meetings were called by residents to request clarification on the provisions of Act 306.

The designations on each map were compiled on master maps of the coast to provide a clear graphical indication of the group’s choices. Consensus on certain areas was readily apparent. Collectors were directed to indicate areas considered critical to their fishery. One of the four aquarium representatives provided such information. The others provided only a single brief outline of their combined FRA choices, which totaled less than the minimum 30%. They provided no specific information on areas they considered critical to their fishery. Nevertheless, areas designated

by the collectors showed a remarkable congruence with those ultimately selected by the Council as a whole.

The Council was repeatedly tasked to keep the combined size of the FRAs as close to 30% as possible. This strategy was adopted, despite considerable pressure from within the Council and the public at large to close a significantly larger portion of the coast. It was made very clear to the Council that they were to manage the fishery by ensuring sustainability and reducing conflict, and not to shut it down. Though the language of Act 306 was clear and written with full knowledge of the collectors, the percentage aspect was a source of much rancor and discord. Repeatedly throughout the FRA designation process, aquarium collectors asserted that the bill was written to set aside no more than 30% of the coast (as FRAs). When the site selection process exceeded 30%, they stated they had been betrayed and exploited. They rallied behind this to justify opposition to the FRA plan and non-participation in the process.

During the time of the WHRFWG and when the WHFC was first formed, there was little scientific information regarding the impact of aquarium collecting in Hawai`i or elsewhere. This fact had been held up time and again by collectors throughout the years whenever there were calls for increased management. Only a single Hawai`i study (Nolan, 1978) had specifically addressed the issue but it was fraught with methodological problems and was not peer reviewed nor published in any scientific journal. As the initial results of the joint UHH/DAR aquarium reef fish study became available (Tissot and Hallacher, 1999) they were presented to the Council and reported in public lectures. Additionally, preliminary results of two other DAR studies (Walsh, unpublished data) that examined changes in reef fish communities over 20-year periods were also presented. All three of these studies indicated substantial effects on fish populations due to aquarium collecting.

Aquarium collectors on the Council responded to these findings by ceasing their active participation. All attended the initial meetings (one by proxy), but subsequently their attendance became sporadic. They either failed to show up or sent proxies whose presence was often not constructive. Absenteeism at Council meetings was not limited to the collectors and a number of members were dropped from the Council due to nonattendance. Maintaining peoples' commitment to such a group has proven to be a difficult undertaking given the differences of interests and the often contentious and emotionally charged atmosphere of decision-making meetings.

Nevertheless, the Council as a whole persevered and by consensus, vote and determination worked out a biologically sound, enforceable, and conflict-resolving FRA Rule. Nine separate areas along the coast were selected ranging in size from 1.4km to 9.6km comprising a total of 35.2% of the West Hawai`i Coastline (including already protected areas). Seaward boundaries were set at 100 fathoms to anticipate future use of deep-water rebreather technology.

To enhance enforceability and stabilize the fishery other provisions included GPS boundary coordinates, prohibition of aquarium collecting gear or collected animals within FRAs, an aquarium vessel registration/identification system, and a control date for possible future use in a limited entry program.

The FRA Rule was presented at a public hearing held in April 1998. The hearing was the largest ever conducted by DAR. The Rule received overwhelming support (93.5% of 876 testimonies) from a wide range of community sectors. Several months later it was unanimously approved by the Board of Land and Natural Resources (BLNR, the parent agency of DAR) with all its provisions except for the prohibition on aquarium collecting gear within FRAs, which was inexplicably omitted.

The Attorney General's office then reviewed the Rule in preparation for the Governor's signature. A Deputy Attorney General issued an opinion that due to an administrative technicality, several of the provisions (animal possession, vessel identification, and control date) could not be lawfully adopted until they went through another complete public hearing process. DAR questioned

the soundness and validity of the opinion but decided to bring the Rule back to the BLNR for re-approval without the provisions objected to by the Deputy Attorney General.

The amended Rule was approved shortly thereafter by the BLNR and on 17 December 1999 the Rule was signed by the Governor, effective 31 December 1999. DAR is in the process of restoring the eliminated provisions to the Rule.

To evaluate the effectiveness of the FRAs and to better understand the ecological dynamics of our nearshore reef environment, a long-term collaborative effort is currently underway by University scientists and DAR. This study is the West Hawai`i Aquarium Project - WHAP.

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