

## in the US Caribbean

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### ABSTRACT

The Caribbean Fishery Management Council has determined that several species in the US Caribbean EEZ require harvest reduction. MRAG Americas and NOAA Fisheries jointly conducted two series of workshops at several locations with commercial fishers of Puerto Rico and the US Virgin Islands to determine their attitudes toward capacity and effort reduction (“limited entry”) programs, as a potential part of the management scenario in the US Caribbean. Fishers generally preferred a system that limited entry to “genuine” fishers, those who derived substantial income from fishing. A preference for license limitation, used in this sense, was virtually universal. However, Puerto Rico fishers did not want to limit the total number of genuine fishers, while USVI fishers supported a limit on numbers. Different regions of the USVI had different views on appropriate limited entry. Any efforts to establish a limited entry program in Puerto Rico will require extensive consultation and education of fishers, and a common Federal/State program seems unlikely in the near future.

Most fishers felt that other limited entry/capacity reduction methods would overly restrict flexibility of fishers. Fishers commonly stated that small boats used in the US Caribbean do not have enough fishing power to cause a resource problem. Fishers face many socio-economic obstacles, have few economic opportunities other than fishing, and felt that management restrictions directly reduced their standard of living. Fishers in the USVI recommended financial and technical assistance for local efforts to develop a license limitation plans. Fishers, especially in Puerto Rico, stated a desire to have greater input into management decisions, and recommended future activities to enhance consultation and cooperation between government agencies and fishers.

**KEY WORDS:** Limited entry; US Caribbean; Fishery management

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## Actitudes de Pescadores hacia Programas de Reducción de Capacidad y Esfuerzo en el Caribe Americano

El Consejo de Administración Pesquera del Caribe (CFMC, por sus siglas en inglés) ha determinado que se debe reducir las capturas de varias especies en el Caribe Americano. MRAG Americas y el Servicio Nacional de Pesquerías Marinas (NOAA Fisheries, por sus siglas en inglés) llevaron a cabo conjuntamente una serie de talleres en Puerto Rico y en las Islas Vírgenes Americanas con el fin de determinar actitudes de los pescadores comerciales respecto a un posible programa que limita la capacidad y el esfuerzo pesquero (“acceso limitado”). En general, los pescadores señalaron que preferían un sistema de acceso limitado que favorezca a pescadores genuinos, es decir aquellos pescadores que obtienen gran parte de sus ingresos de la pesca. Concebido de esta manera, el sistema de acceso limitado tuvo una aceptación casi universal. Sin embargo, los pescadores de Puerto Rico no apoyaban una limitación en el número de pescadores genuinos, mientras que los pescadores de las Islas Vírgenes Americanas sí apoyaban una limitación en el número de pescadores genuinos. Diferentes regiones de las Islas Vírgenes Americanas tenían perspectivas distintas sobre el sistema de acceso limitado más adecuado. Futuros esfuerzos para establecer un programa de acceso limitado en Puerto Rico necesitará de un amplio programa de consultas y educación. Un programa conjunto entre agencias federales y estatales parece poco probable en un futuro próximo.

La mayoría de los pescadores sostuvo que los otros métodos de acceso limitado, restringirían la flexibilidad de pescadores de manera excesiva. Pescadores frecuentemente señalaron que sus pequeñas embarcaciones carecían de suficiente poder pesquero para causar daño al recurso. Los pescadores también mencionaron que enfrentan varios obstáculos socio-económicos, incluyendo pocas oportunidades económicas fuera de la pesca y que regulaciones restrictivas directamente reducen su nivel de vida. Los pescadores de las Islas Vírgenes Americanas recomendaron dar asistencia financiera y técnica a sus esfuerzos para desarrollar un programa de limitación de licencias. Pescadores, especialmente en Puerto Rico, señalaron su deseo de tener una mayor participación en la toma de decisiones, y recomendaron actividades para realzar el nivel de consultas y cooperación entre agencias gubernamentales y pescadores.

**PALABRAS CLAVES:** Acceso limitado, Caribe Americano, Ordenación pesquera.

### INTRODUCTION

The Caribbean Fishery Management Council (Council) is examining the potential use of fishing capacity and effort reduction mechanisms to rebuild over-exploited resources. Capacity reduction refers to reducing the absolute amount of fishing capability (e.g., vessel and license buybacks), while effort reduction refers to limiting the amount of fishing without eliminating it (e.g.,

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reductions in days at sea).

The US Virgin Islands Department of Planning and Natural Resources (DPNR) implemented a moratorium on new entrants to the fisheries, but has not developed a permanent limited entry program or other regulatory revisions due to limited resources for consultation with the fishing industry. Puerto Rico currently has no limited entry program in place. The government of Puerto Rico has recently approved new fishery regulations to implement a 1998 fishery law, and intends to fully enact the regulations before undertaking efforts to develop limited entry programs.

To assist the Council, MRAG Americas, Inc. (MRAG) and NOAA Fisheries Southeast Fisheries Science Center (SEFSC) teamed with US Caribbean fishermen, to conduct a series of workshops in Puerto Rico (PR) and the US Virgin Islands (USVI). The objectives of these workshops were to explore limited entry concepts with commercial fishers and to assess the opinions of fishers on effort and capacity reduction programs (subsequently referred to as "limited entry").

Two rounds of workshops were held in Cabo Rojo, Ponce, and Fajardo in PR, and St. Croix and St. Thomas in USVI. During the first round, we presented background on the need to reduce catches, and the role and experience with limited entry programs. During the second round, we focused on issues specific to license limitation, the limited entry method most favored by fishers in attendance at Round 1. This paper details the main findings from these series of workshops.

### PREPARATION FOR WORKSHOPS

The team prepared two bilingual announcements for distribution to fishers, agencies, and the media, that emphasized that the Council had scheduled management action for late 2004 to protect several fish stocks at risk from overfishing. The announcements offered limited entry and capacity reduction as management options for consideration by fishers.

During Round 1, summarized the characteristics and pros and cons of six limited entry and/or capacity reduction methods:

- i) License limitation
- ii) Co-management
- iii) Vessel/license/gear buy back
- iv) Limited days at sea
- v) Gear limits (trap certificates)
- vi) Quotas (fleet-wide, individual)

For Round 2, the team reviewed the opinions expressed during Round 1 and presented a list of issues with discussion points for which decisions are necessary for defining the license limitation program, and initiated a discussion with fishers about the next steps for developing a limited entry regime.

The workshop format was designed to be simple. The fisher partner introduced the team and indicated the purpose of the workshop. A team member then made a short presentation to introduce limited entry and how it might fit within a management program. Following the presentation, the team

turned the floor over to fishers for questions and comments. The team responded as appropriate, trying to provide information without implying a preferred approach. In all cases, the team emphasized that it was trying only to obtain fisher opinions on management issues, and not advocating a particular management method.

### ROUND 1 WORKSHOP RESULTS

The workshops were relatively well attended. In PR, approximately 200 fishers attended the workshops. The 2002 PR Fishers' Census reports that there are approximately 1,200 active commercial fishers in the island. In USVI, about 50 fishers attended the workshops. USVI has about 400 licensed commercial fishers. An attendance breakdown by location is offered in Table 1.

**Table 1.** Location, dates, and attendance at workshops

Location	Round 1		Round 2	
	Date	Attendance	Date	Attendance
Cabo Rojo	April 19	50	June 8	1
Ponce	April 20	50	June 9	20
Fajardo	April 21	100	June 10	28
St. Croix	April 22	40	June 6	4
St. Thomas	April 23	9	June 7	25

The number of participants offered an opportunity for a wide diversity of opinions. In PR, the implementation of the new fisheries regulations dominated the discussion. Several fishers did not know the real intent of the workshops, and came primarily to express displeasure with the law and regulations. Fishers expressed suspicions of our motives, suspecting that we were trying to generate support the new fishery regulations. Much of the discussion was directed against the new regulations. Fishers stated that too many restrictions currently existed, that they do not want restrictions imposed on them without an opportunity to participate. They also noted that DNER did not show them studies that demonstrated the need for the regulations nor the benefits that would accrue.

Fishers from all islands generally favored a license limitation that privileged "full time" fishers as the best of the possible limited entry methods (Table 2). Most favored a single license for Federal and State waters. PR fishers selected license limitation in part because of competition from fishers not considered as genuine and in part to help rebuild the resource (see footnote 1). PR fishers generally recognized that the fishery resource is in poor condition, although some from Fajardo and most from St. Croix and St. Thomas considered the resource in satisfactory condition but under stress from too many fishers. Most fishers did not perceive advantages to the other

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methods, and felt that the other methods would overly restrict their fishing operations. Fishers frequently stated that small boats used in the US Caribbean do not have enough fishing power to cause a resource problem. A number of fishers favored registration and limitation of traps/pots or SCUBA tanks, but most did not support this. Support for trap limits was greatest in the St. Thomas meetings, which had low attendance. Others recommended additional seasonal or permanent time area closures, but this did not elicit much support. Several brought up a perceived need for artificial reefs, fish attracting devices (FAD) and/or aquaculture.

Fishers face many socio-economic obstacles, and wanted maximum flexibility in fishing operations to deal with them. Fishers have few economic opportunities other than fishing, and felt that management restrictions directly reduced their standard of living. Fishers consistently brought up the idea of compensation by the government for present and especially future fishery restrictions: "The government pays farmers not to farm." In addition, fishers suggested that pollution and coastal development (e.g., new marinas, clearing of mangroves) had a greater adverse impact on habitat than fishing.

Fishers from PR and the USVI generally agreed that fisheries currently have too many regulations or restrictions, and that the existing regulations are adequate or excessive. Fishers supported revisions in fishery regulations, but the fishers from the two areas had vastly different views of the management process. USVI fishers meet with the support of DPNR to update old regulations. USVI fishers supported using the FAC to develop and incorporate fisher positions into Territorial regulations but lack of funding reduces effectiveness of the process. They strongly opposed the imposition of large closed areas in USVI waters. PR fishers strongly opposed the new regulations that implement the current fishing law, not only because they consider them excessive but also because they were developed in a non-consultative manner. PR fishers want to change the regulations adopted only a month before by what they see as an unresponsive government. In contrast to the USVI, PR fishers have no consultative mechanism comparable to the FAC process with which to develop fisher positions for license limitation or other management measures.

Fishers supported stronger coordination among the State and Federal management agencies. Fishers stated that lack of enforcement is a serious problem. St. Thomas fishers, especially, felt that lack of enforcement jeopardized current and future management effectiveness, and that only limited benefits would accrue from a limited entry program or other management changes. Fishers want to know how current restrictions will improve the resource, and timing or projected rebuilding, and most want more information on studies that conclude declining abundance and at-risk stocks and on studies that evaluate socio-economic impacts of proposed (or past) restrictions.

Table 2. Ranking of limited entry methods by fishers, by location

Issue	Location				
	Cabo Rojo	Ponce	Fajardo	St. Croix St. Thomas	
License limitation	Recommended	Preferred – Limit to genuine fishers	Preferred – Limit to genuine fishers Concern that retiring and death will reduce number of fishers too low	Preferred – Limit to genuine fishers Preferred Uncertain	
Co-management	No discussion	No discussion	Opposed – too political Should be highest priority – increase consultation	No discussion Need more information	
Vessel/ license/gear buy back	No discussion	No discussion	Opposed – “not feasible”	Opposed Supported if sufficient payment	Opposed – fishers would just share the same boat Supported as part of comprehensive plan
Limited days at sea	No discussion	Opposed – Weather already limits days at sea	Opposed – Weather already limits days at sea	No discussion	No discussion
Gear limits (trap certificates)	No discussion	No discussion	Opposed – Fishers need to determine how much to fish, small vessels have only small amounts of gear Supported – trap registration to prevent trap robbing	No discussion	Would work only for traps and SCUBA tanks Would trade gear limits for more open areas Lack of enforcement reduces effectiveness
Quotas (fleet, individual)	No discussion	Opposed	No discussion	No discussion	Opposed – too easy to cheat, would reduce catches too low

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## ROUND 2 PLANS

Of the issues discussed by fishers, the license limitation program was the only one with sufficient agreement to offer a good short-term opportunity for solutions. Based on discussions with fishers, the team concluded that fishers in all areas generally supported a permanent license limitation program, but did not all agree on the details of a program.

For the Round 2 workshops, the team developed a series of discussion points (Table 3) for further consideration of license limitation programs for PR and the USVI. The discussion points had both general issues common to both jurisdictions, and jurisdiction-specific issues. Table 3 was not intended as a decision-making document, but as a mechanism to indicate the complexity of the issues and stimulate discussion.

The desire by fishers to have a consistent venue for discussing management options with management agencies suggests that some form of consultative or cooperative management may be appropriate. However, the most reasonable form of cooperative management cannot be determined without further consultation with agencies and fishers to determine the interest and ability in participating in various forms of cooperative management. The plan for Round 2 workshops called for the project team to explore with fishers, especially in PR where no fisher-agency forum exists, possible steps for further consideration of cooperative management.

## ROUND 2 WORKSHOP RESULTS

Fishermen participation in the second round of workshops declined somewhat. In PR fisher participation dropped from 200 to 50 and in USVI fisher participation declined from 50 to 30 (Table 1). As in the first round, fishers took very different positions on various issues.

### **Licence and Capacity Limitation Issues**

Fishers generally preferred a system that limited entry to “full time” or genuine fishers (Table 2). PR fishers did not want to limit the total number of genuine fishers, while USVI fishers supported a limit on numbers. During the Round 1 workshops, the project team explained the term *license limitation* to mean limitations on the *number* of licenses, and based discussions on this concept. However, at the second round workshops in Ponce and Fajardo, we discovered that fishers there interpreted license limitation to mean limitations on the individuals who could receive licenses. The preference of PR fishers in attendance could be considered a “regulated open access.” Fishers face many socio-economic obstacles, have few economic opportunities other than fishing, and felt that management restrictions directly reduced their standard of living.

<b>Table 3.</b> Key issues for the design of a license limitation program	
<b>Issue</b>	<b>Discussion Points</b>
<b>Goal</b>	Do you want your fishery to have fewer entry restrictions (more fishers) but be less profitable? or Do you want your fishery to have more entry restrictions (fewer fishers) but be more profitable?
<b>License types</b>	Should fishing license be generic or gear-specific license? Should licenses be multi-species with no endorsements, multi-species with species endorsement, or single (or group) species? Should there be full-time, part-time, and/or subsistence categories?
<b>Eligibility</b>	How would you define a full-time, part-time commercial fishers and/or subsistence fisher? Income using tax returns, or landings reports Number of days at sea, poundage thresholds based on landing reports Other criteria
<b>Limitations restrictions</b>	Attach license to the vessel and/or individual? Should part-time and/or subsistence fishers be confined to a specific gear (e.g., hook and line, spears) and gear amount (e.g., 20 traps)? Should the license only apply to Commonwealth/Territorial waters or jointly to Commonwealth/Territorial and Federal waters?
<b>Duration</b>	Should the license be granted for a specific amount of time (e.g., 5, 10, 15 years), until the fisher dies or retires, or in perpetuity?
<b>Transferability</b>	Should the transfer of licenses be allowed? Who should be able to receive a "transferred" license (e.g., family, friends, helper, etc)? Should license holders be able to sell and/or lease their license? Who should be able to buy and/lease the license (part-time fishers, helpers, etc)?
<b>New entrants to the fishery</b>	Should there be no new entrants for a set period of time (e.g., moratoria)? Should there be helper license as prerequisite for entry for full-time fishers? Should fishes be required to acquire to 1, 2, or more licenses to enter the fishery?
<b>Representation</b>	Should representation be by Association heads, Federation of associations, Fishery Advisory Committee (FAC), or direct election by fishers?



PR and USVI fishers shared a common view on the need for license limitation but often did not agree on the details of the concepts. In general, fishers wanted to limit commercial fishing licenses to genuine fishers – those who made a substantial part of their income from fishing. A preference for license limitation, used in this sense, was virtually universal. However, PR and USVI fishers had opposite opinions on whether to limit the number of licenses. While PR fishers at the workshops did not want a limit on the number of fishers, USVI fishers wanted to make the current moratorium permanent. In most cases, fishers in both areas preferred a tiered license system that designated full-time fishers and other categories, although some did not want any separation among fishers. Those who wanted a tiered system had various ideas for the details. Virgin Island fishers were more receptive to licenses or endorsements for species or gear, while PR fishers opposed this idea (the new PR regulation calls for endorsements by species). Fishers in both areas preferred a management system that reduces the administrative difficulties in dealing with government, including a single license for State and Federal waters, at least several years duration for licenses, and a single location for renewing licenses. Fishers in both areas felt that enforcement was inadequate to prevent illegal fishing. USVI fishers further felt that lack of enforcement could jeopardize future management actions including license limitation, but recommended moving forward with developing a program was worthwhile in part to raise the profile of the enforcement inadequacies. Manipulation of landings records and tax forms were identified as issues needing resolution in PR.

### **General Concerns — Puerto Rico**

Fishers in PR expressed suspicion of and/or unhappiness with government agencies. Fishers typically blamed DNER for a lack of responsiveness to fisher input and for imposing restrictions unilaterally. Fishers commented on a need for coordination among management agencies (DNER, Puerto Rico's Department of Agriculture (PRDA), NOAA Fisheries, and the Caribbean Council). Fishers continuously commented on the non-responsiveness of DNER and PRDA. The concern with and opposition to the new fishery regulations arose as a consistent theme. A central reason for PR fishers' apprehension to the new regulations, specifically the mandatory reporting of fish landings, is the potential loss of welfare benefits. Key informants have suggested that about 80% of the Puerto Rican fishers receive some form of government assistance.

Puerto Rico's Department of Agriculture provides a number of social assistance programs. In addition, PRDA allows commercial fishers to qualify as bona fide farmers. A bona fide farmer: 1) has in effect a certification issued by the Secretary of Agriculture with the advice of the Secretary of the Treasury, stating that during such year the person was engaged in an agricultural business, and 2) derived 50% or more of gross income from an agricultural business, as an operator, owner or lessee, as shown on his income tax return. The bona fide designation provides commercial fishers with 90% tax exemption on income derived from agricultural businesses.

Commercial fishers fear that by having to report their landings, govern-

ment benefits maybe jeopardized. Depending on the fisher's income, there may be an incentive to either under-report or over-report. If a fisher has no (or modest) reported (non-fishing) income, he/she may have an incentive to under-report catches to minimize the Commonwealth tax burden, and to qualify for PRDA programs such as food stamps. Depending on the particular situation, the fisher may also qualify as a bona fide farmer. Conversely, if a fisher has a reported (non-fishing) income (e.g., military pension), then depending on its magnitude, the fisher may have an incentive to over-report landings to ensure he/she qualifies as a bona fide farmer (i.e., 51% of the fisher's income comes from fishing) to reduce the tax burden. The DNER is aware of the welfare and income tax implications on catch reporting, and has taken some steps to address them. PR fishers expressed a desire for more direct input into management decisions.

### **General Concerns — US Virgin Islands**

USVI fishers expressed suspicion of and or unhappiness with government agencies. Fishers felt overwhelmed by the myriad of territorial and federal agencies with some control over fishing activities. Many expressed reluctance to cooperate with the agencies because of a perceived ineffectiveness of cooperation or dishonesty on the part of the agencies, giving examples as imposition of parks and monuments in the US Caribbean. USVI fishers have a FAC with which to develop and transmit ideas to management. However, it has not been entirely successful, due in part to lack of funding and expertise in support of the FAC and in part to lack of participation by fishers. Fishers commented that members who participate in unpopular decisions may be the target of retaliation in the form of gear destruction. St. Croix fishers desire a fishery liaison position with local government to assist fishers in dealing with the government.

### **RECOMMENDATIONS**

During the second round of workshops, the team asked participants 1) if they supported a recommendation to seek funds to help fishers develop a license limitation program, and 2) if they supported a recommendation to evaluate mechanisms for enhancing management cooperation among fishers and agencies. USVI fishers supported both ideas. PR fishers opposed limiting the number of fishers, but supported a process for enhanced cooperation. During the course of these workshops, the team became aware of the incentives for misreporting catch and income. Misreporting has serious implications for many management programs. Some better means of confirming catch seems imperative.

The project team used a consensus of opinions expressed during the workshops to develop the following recommendations to build on the results of the workshops:

- i) Do not attempt at this time to develop a license limitation that sets a maximum number of fishers for PR without extensive outreach and education. PR fishers are adamantly opposed to this concept. Fishers believe that limiting licenses to genuine fishers will reduce the total

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number of licenses and will concomitantly reduce the catching capacity to levels commensurate with the resource productivity. PR fishers seemed to have misconceptions of the various methods of limited entry and the implications of the methods. Extensive education and discussion with the fishers and their leaders will be required to explore limited entry.

- ii) Fund technical support for FACs to develop new regulations for license limitation in the USVI. Fishers, DFW, and the Council support establishing a process to develop a permanent license limitation program for the USVI. The Commissioner of DPNR has charged the USVI FACs with updating and rewriting fishery regulations, including regulations for a limited entry program. The FACs have met several times to discuss limited entry, but have not successfully completed this project. Additional funds to support the FAC process and to provide outside expertise will help the FAC reach a consensus.
- iii) Address the desire for increased fisher participation by exploring mechanisms that both fishers and government can support. Increasing cooperation is not a trivial process, as both fishers and agencies have issues they prefer to include or exclude from the process. Fishers objected the lack of studies that justified management actions. We recommend preparation of a proposal to obtain funds to survey agencies (State and Federal) and fishers to determine appropriate organizational structures, and to help fishers and agencies implement the organization.
- iv) Develop a system to verify reported landings. The quality of landings reports depends on the willingness of fishers to report correctly. Quality of record-keeping by fishers, fisher interest in the data, and incentives have a major influence on data quality. Especially in PR, welfare and tax benefits can provide incentives to under report or over report (DNER is working to address these issues). As a result of these incentives, catch statistics may not accurately track even trends. PR fishers stressed the need to certify landings. Such mechanisms could range from certification of landings by the head of a fisher's association head (recommended by PR fishers, but not available in USVI) to a requirement to sell to licensed and bonded processors. We recommend evaluation of alternative mechanisms consistent with the culture to increase reliability of the catch data.

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