

Sustainable Fisheries Partnership Discussion Paper
SE Asia Blue Swimming Crab Minimum Size Implementation Plan
January, 2011

Background

A sub-committee of the U.S. Crab Council, representing roughly 70% of U.S. importers of blue swimming crab is developing a strategy to address the issue of undersized crab which is a concern from both economic and sustainability perspectives. The Council will be asking their member companies to agree to adhere to the minimum purchase size (not yet determined) at a date not yet set. The sub-committee is recommending that the focus on compliance to this minimum size standard be in Indonesia and the Philippines but recognizes the need for similar action in Thailand, India and Vietnam. Other countries that might also be taken into consideration for a minimum size standard are Cambodia and Myanmar as it is suspected that much of the product harvested in Thailand is shipped to these countries for processing and reshipment.

As part of this initiative, the Crab Council will be asking producer organizations in Indonesia (APRI) and the Philippines (PACPI) to incorporate into their 2011 work plans the biological analyses necessary to determine a science-based minimum size for crabs in their fisheries. The Council sub-committee views this research as needed to justify further increasing the minimum size at a later date. The sub-committee has requested input from SFP regarding:

- What should the initial minimum purchase size be (based upon carapace size and corresponding lump meat weight)?
- Should an absolute date be set for moving to a minimum size or should it be phased in over a period of time? A six month phase-in has been suggested.
- What role can SFP play in compliance monitoring/verification as well as further data collection on size at maturity, meat yield, etc?

Minimum Size

While the sub-committee has not established a minimum size recommendation to the Crab Council they are thinking of suggesting 8cm and seeing whether that would be acceptable to the majority of Council members. The Blue Swimming Crab Management Plan adopted in the Philippines proposed a minimum size of 10.16cm/120 to 130 grams.

The arguments in favor of a 10cm minimum size include:

- It is more than likely at or slightly below the size at first maturity of female BSC (per a review of the scientific literature).
- Data suggests it is the minimum size at which jumbo lump begins to consistently occur in sufficient quantities (as per comments from a number of industry representatives).
- Processor data clearly shows that the return per crab (yield) is higher as the crab get larger.
- Processing times are higher for smaller crabs thus increasing labor costs.

Having different minimum sizes by country would be very difficult to monitor and enforce. This is somewhat analogous to the minimum size established by the U.S. government for the importation of spiny lobster tails. While some countries in the Caribbean allow under-size tails, others do not. In some cases illegal lobster tails have been shipped to another country and then on to the U.S. in an attempt to circumvent the law.

Also, establishing different minimum sizes for different countries would put some countries at a competitive disadvantage and could increase demand for the cheaper product from countries with a lower size standard. Currently China has no minimum size for BSC while Vietnam has a 100mm minimum size but lacks enforcement. In Thailand there is no set minimum size although the industry is forming a crab management/advisory group that would address size. No information was found on minimum legal size in India.

Regarding lump meat weight from various sized crab, SFP has information available from April-June 2008 from 5 miniplants in 5 locations across the Indonesian archipelago. These data include 300 measurements from the five sites (50 or 60 samples per miniplant). A broader sampling would be needed to account for location and time of year.

The use of lump meat weight in determining crab size presents a challenge when there is no universal specification for “lump” with other terms such as lump flower, lump backfin, super lump, petit jumbo, etc. In addition, the specification for data collection will require greater clarity on the definition of lump meat. SFP’s data only classified white meat extracted from the breast as one piece (formed as a flower and called “lump flower”). Still others refer to swimming leg muscle as “lump.” SFP suggests that in order to use the “lump meat” weight to monitor compliance, we need to ensure the consistency of product specification across the processors.

While SFP staff believe an 8cm minimum size is too small and would rather see a 10cm as the initial minimum size, we will however work with the Crab Council and APRI on this issue. The important thing is to set a minimum size that protects both the stocks and the long term economic viability of the fishery. If the chosen strategy is to start small then there needs to be an understanding that this will be increased incrementally in the future as new data become available. However, on the basis of existing information SFP encourages the Crab Council to voice its support for the 10cm minimum size

which had previously been established in the Philippines management plan. A 10cm size in the Philippines would then set the bar for the rest of SE Asia.

Other Steps Needed to Support Adoption of Minimum Size

It is important to note that the success of imposing minimum legal size relies on US retailers and other major buyers taking actions themselves to reduce demand for unsustainable practices. Major buyers in the US can support this measure by simply not buying product made from undersize crab, or from producer countries that do not have minimum limits. By not buying the product, the buyers reduce demand for it, and make it easier for responsible proactive suppliers to introduce and abide size limits.

Major retailers in the US need to be educated not to buy undersize crab, and agree not to buy any product from any supplier found supplying undersize crab to any other US retailer. For example, the retailers can notify the suppliers that they will not buy “petit-jumbo” or products made from immature crab in the future. The retailers can advise that they require evidence, within 12 months say, that producer countries have adopted a regulatory minimum size limit and are following best practices to incrementally increase that to proscribe capture of immature crab and within 3 months. They require product spec from their suppliers confirming the size of crab being utilized and that ultimately they will tighten the spec to eliminate undersize product, in line with the size limits being introduced in the producer countries.

The other key condition to support the implementation of minimum size is the additional regulation in Indonesia to make it harder for a new buyer (processor) to simply pop up and take the small crab. There is the need to update the Indonesian government on this issue and encourage them to do two things:

1. Introduce a minimum landing size, so that any undersize crabs are therefore technically illegal, and import of them into the US contravenes the Lacey Act.
2. Require all traders and processors of BSC in Indonesia to be licensed and develop a public list of all licensed Indonesian traders and processors, noting which are complying with size limits, and which are not, and provide this list to major exporters and importers, with the intent of "black-listing" non-compliant suppliers.

Date for Introducing a Minimum Size

It would seem practical to set a date for introduction of the minimum size standard that allows for sufficient time to inform fishermen, mini-plant operators and producers. Fishermen will need to know how to determine the minimum size (we might consider supplying a ruler or simple device that quickly measures the carapace such as the one used in the North Atlantic lobster fishery), mini-plants will need some training on how to quickly identify undersize crab (and what they should do about them) and the producers will need direction from their customers and training on how to communicate the minimum size to their suppliers.

It is unclear at this point what minimum size will be adopted in the Philippines although it appears that whatever size is decided upon will be implemented immediately. However, even if the Philippines adopt a larger minimum size standard it may still be more practical to allow a phased approach to reaching the desired standard elsewhere. Thus Indonesia might have 4-6 months to reach the standard even if the Philippines has already implemented a minimum size. Ultimately all countries should have the same minimum size if the science shows that the crab uniformly reach maturity at a specific size or at least a minimum size.

Verifying Compliance

One of the more challenging issues regarding minimum size is that of verification of compliance. With hundreds of mini-plants in operation in Indonesia alone the question is who will enforce the size standard? And who will verify that enforcement is both occurring and effective?

One question that needs clarification before the compliance issue can be dealt with is whether lump meat from undersize crab is recognizable within the supply chain. If buyers could identify lump meat from undersize crab in the products they purchase (jumbo petit crab for example) then they could write a minimum size into their purchase specifications and conduct periodic tests to confirm compliance. However, it is more likely that verification will need to be pushed down the supply chain; i.e. buyers setting standards for producers and producers monitoring the supply from mini-plants. Ideally, the goal of this process is having the fishermen returning all undersize crab to the water (alive hopefully) and not trying to sell them to the mini-plants.

SFP does not have the capacity to monitor minimum size compliance at the mini-plant level. This would need to be done using a combination of tools including the data collection information at point of harvest, employment of independent auditors spot-checking documentation and potentially visits to mini-plants. The supply chain can play a key role in enforcing compliance through tighter product specifications by Crab Council members and control documents from major buyers with language detailing minimum acceptable size.

Other SFP Activities in Support of the Enactment of Minimum Size Standards

1. In Indonesia, SFP works with APRI to encourage the government to develop BSC Management Plan.
2. In Philippines, SFP is currently involved in the finalization of the BSC Fisheries Management Plan and supporting its adoption. The Management Plan is already on its final revision which advocates for a 10.16cm minimum legal size as one of its management regulatory schemes.
3. SFP (together with Bogor Agricultural University, IPB) has developed a research proposal on "Economic Evaluation of Implementing Minimum Legal Size (MLS) on Blue Swimming Crab

Fishery in Indonesia” for EEPSEA (Environment and Economy Program for South East Asia) to provide sufficient information on potential biological, economic and social effects in implementing a minimum legal size (including a range of MLS options) to the stakeholders and decision makers. Funding for this proposal is pending for approval. The proposal is only to cover 2 sites in Indonesia, one is in the area where the crab stock perceived to be depleted and small crabs are abundant, and the other one is where there are still more large crabs compared to small crabs. Ideally, the study should be conducted in more priority areas to get better representativeness in assessing potential impacts across the region, but the current budget is not sufficient.

4. Provide technical assistance (i.e preparing data sheet template, training to processor field people for data collection and data entry and showing initial data analysis) to APRI (and PACPI) in gathering crab size/meat information at selected processing plants. SFP will not be doing the data entry and data analysis since these needs to be done by APRI and PACPI. APRI and PACPI can install the capacity within APRI & PACPI.
5. Mini-plant spot checks (on whether small crabs still harvested and what obvious impacts to the fishermen and mini-plants so far) by SFP staff in Indonesia and the Philippines; observing and reporting findings every 2-3 months. This would mean constant traveling to the randomly selected mini-plants and would require full cooperation from APRI & PACPI. No technical, hard science report needed, just report on observation.
6. Develop FishSource profiles for blue swimming crab in India, Thailand and Vietnam. Drafts are available based on available online information and profiles will be made available by 1st quarter 2011, and should be open for comments/reviews.
7. Share SFP information and experiences in Indonesia and the Philippines with organizations working on BSC in India, Vietnam and Thailand. SFP can only do online sharing. Visit to India, Vietnam and Thailand will need to be supported by USCC, currently SFP do not have funding for this.
8. SFP supports research priorities on:
 - Seasonal crab size distribution and crab size at maturity across the region. This is a continuation of Andy Warmbrunn’s work.
 - The fishing method and gear that catches less immature BSC or would allow the return of healthy live immature crabs at sea when caught. It is an established fact that crabs on the deeper waters are larger than on shallow waters. SFP therefore encourages the fishers particularly those using pots/traps to fish in deeper waters to minimize the catching of immature crabs. Furthermore, SFP encourages the use of pots and traps because caught immature crabs could always be returned alive and healthy at sea.

SFP's role will be providing technical assistance, i.e training, provide template, initially monitor data collection, entry and analysis of data for demo purposes, and in doing proposals for funding. But APRI and PAPCI should be doing all the data collection.

9. Evaluating enhanced management options once a minimum legal size has been implemented. Additional short term options include a ban on the take of egg bearing females and the closure of known spawning and nursery habitats. Under the current work plan, APRI and PACPI have started to implement some stock enhancement project. The evaluation work should be done by a fishery management consultant and need to be funded separately from USCC.