

The sustainable special: Can restaurants encourage sustainable seafood consumption

by Leah Biery

When you dine out, how do you decide what to order? Do you head to the restaurant with a clear idea of what you want to eat, or are you influenced by the daily specials and suggestions from your server? While living in Southwest Florida, where the tourism-based economy revolves largely around seafood restaurants, I became interested in how vacationers decide which seafood items to consume. I frequently overheard people announce that they were going out for grouper (or oysters or snapper...), apparently already certain of what they would order before even sitting down at a table. Others seemed less sure about what they would eat, but knew that after a long day at the beach, they were in the mood for some kind of seafood. Around the time I made these observations, I was working on a local sustainable seafood initiative, so I wondered if and how those who sat down in a restaurant without a specific dish in mind could be influenced to choose a sustainable option.

After considering the many factors that influence customer choices in a restaurant, I decided to look at server suggestions and daily specials, two elements of the dining experience that often influence my own menu decisions. I recruited two high school students associated with the organization I was working for to help me design and distribute a survey for tourists on Sanibel Island. What follows is a summary of what we learned.

Of the tourists surveyed, 52% usually or always order seafood when they dine out on Sanibel Island. An additional 33% sometimes order seafood. This indicates that the local demand for seafood is high, so even a small increase in the proportion of people who make sustainable choices could contribute to the recovery of popular, rapidly declining species like grouper and queen conch (in 2008, queen conch and five grouper species were listed as overfished or subject to overfishing in the Southeast region of the U.S.¹).

We found that 43% of tourists surveyed rarely or never knew which seafood they were going to order before dining at a restaurant. These consumers have not made a decision before sitting down, so some of them would likely be receptive to seafood recommendations from restaurant staff. On this note, 45% of tourists surveyed responded that they were sometimes or usually influenced by server suggestions. Furthermore, 45.5% responded that they were sometimes influenced by the seafood specials. An additional 14% were usually or always influenced by the seafood specials. Eating seafood near the ocean is undoubtedly an essential part of the beach vacation experience, but for many people, the specific type of seafood may not really matter. Our results indicate that server suggestions and daily specials could potentially be used as effective tools

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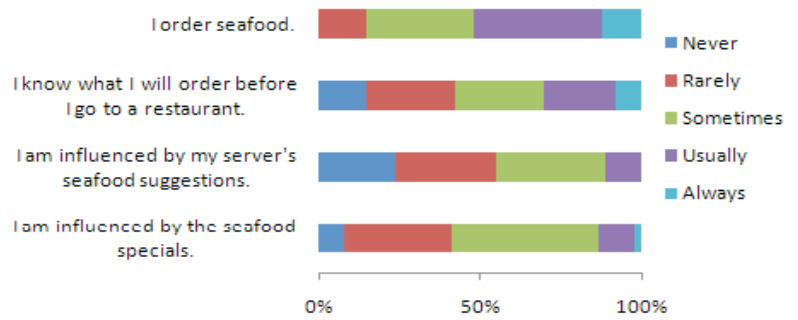
for influencing diners to make sustainable choices. As a means of boosting sustainable seafood sales and reducing the demand for red list species, sustainability initiatives could educate local restaurant management about sustainable seafood and encourage them to advertise only sustainable options as daily specials. Additionally, servers could be trained to routinely suggest sustainable options to customers. This would only work with sufficient interest and participation from dining establishments. Although our findings are specific to Sanibel Island, a similar approach might be effective in other locations as well.

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While working to promote sustainable seafood in a tourist town, it became apparent to me that most vacationers want to relax and not obsess over sustainability. First and foremost, consumers want their meals to be tasty, so I am not implying that restaurants should recommend certain items solely on the basis that they are sustainable. Restaurants interested in operating sustainably could take a backstage approach by purposely selecting and buying sustainable items for

special recommendation, but presenting them to customers as they would any suggestion – delicious. Sustainability should be mentioned as an additional perk, but not forced upon patrons as the only reason to

When I dine out on Sanibel Island...



Sanibel island survey results suggest that seafood restaurants have the power to influence consumer choices.

choose the special. If a proportion of diners will order the special whether it is sustainable or not, it makes sense that restaurants concerned about the future of fish should always offer a suggestion or special that is.

These ideas are just small steps on the path to recovery for depleted fish stocks, but it is apparent that seafood restaurants hold important influential power when it comes to which menu items they recommend to patrons. Especially in areas frequented by tourists who are often on vacation from the stress of thinking about sustainability, dining establishments should take more responsibility for protecting the future of ocean resources. Restaurants with good foresight should be willing to use their power to reduce pressure on overfished species so that eating seafood can remain an essential part of beach vacations for generations to come.

Thank you to Sanibel Sea School and Lena and Natalia Horvath for their help with survey design and data collection.

Endnotes

¹ NMFS, 2009, Annual Report to Congress on the Status of U.S. Fisheries-2008, U.S. Department of Commerce, NOAA, Natl., Mar. Fish. Serv., Silver Spring, MD, 23 pp.



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Our mailing address is: UBC Fisheries Centre, Aquatic Ecosystems Research Laboratory, 2202 Main Mall, Vancouver, British Columbia, Canada, V6T 1Z4. Our fax number is (604) 822-8934, and our email address is SeaNotes@fisheries.ubc.ca. All queries, subscription requests, and electronic address changes should be addressed to Megan Bailey, Sea Around Us Newsletter Editor.

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The Sea Around Us Project is a scientific collaboration between the University of British Columbia and the Pew Environment Group that began in July 1999. The Pew Environment Group works around the world to establish pragmatic, science-based policies that protect our oceans, wild lands and climate. Pew also sponsors scientific research that sheds new light on the dimensions of and solutions to the problems facing the global marine environment.

Lionfish invasion: An opportunity for collaboration, creativity and growth in marine conservation

by Nicola S. Smith¹

People from diverse sectors of society have lamented the invasion of lionfish in the Western Atlantic, and for good reasons. The effects of the establishment and spread of the species (*Pterois volitans* and *P. miles*) on the ecology, economy and human health in the region are uncertain, but are likely to be negative. The ongoing range expansion, which includes the US southeast seaboard, most of the Caribbean, and parts of the Gulf of Mexico, Central and South America, is an important emerging global conservation issue.



Figure 1. Invasive Pacific lionfish on a Bahamian coral head. Photo by Lad Akins, REEF.

Native to the Indian and Pacific Oceans, lionfish are venomous coral reef fishes that feed on a variety of smaller fishes and crustaceans. First documented in the Atlantic off the coast of southern Florida in the 1980s, lionfish were likely introduced via aquaria releases. Some concerns surrounding the invasion include:

1. *The direct, negative impact of lionfish on native reef species via predation.* Lionfish are efficient carnivores that use a novel predation strategy in the Atlantic by herding and cornering prey with its enlarged, fan-like pectoral fins. A study by Albins and Hixon (2008) found that a single lionfish reduced recruitment of native fishes to experimental reefs in the Bahamas by roughly 80% in five weeks.

2. *The potential threat of lionfish to human health and its subsequent, negative effect on public perception of the safety of beaches and other marine areas.* Lionfish have venomous dorsal, anal and pelvic spines that inflict a painful sting to humans. The most common symptoms and signs of envenomation are pain and swelling at the puncture site, but rare systemic effects like respiratory distress, vomiting and convulsions can also occur. This spells bad business for the recreational diving and tourism industries in highly invaded regions like the Bahamas, where current lionfish densities are nearly five times higher than reports in its native range (Green and Côté 2009), and where the misconception that a

lionfish sting can be fatal is still common.

3. *The challenge of implementing an effective lionfish control strategy in a marine environment occupied primarily by developing nations.* The vast spatial extent and connectivity of the ocean to various ecosystems (e.g. mangrove systems) and political regions make attempts at population control difficult. Lionfish eggs and larvae are dispersed by ocean currents, while juveniles and adults are habitat generalists that have been reported in a smorgasbord of Atlantic habitats including mangrove systems, coral reefs, rocky bottoms, seagrass meadows, and artificial structures. Additionally, because of its venomous nature, lionfish have few predators. The task of slowing the invasion is therefore daunting, particularly for the many small island developing countries of the Caribbean, where lionfish densities are high but the availability of scientific expertise and financial resources is low.

Despite these concerns, responses to the invasion in at least one region of the Atlantic have been optimistic. In the Bahamas, the formation of novel partnerships has given rise to a wave of creativity and collaboration in the small nation of more than 700 islands and cays' approach to marine conservation. In one attempt to raise awareness and reduce local lionfish populations, fisherfolk, local and international environmental NGOs, the coral reef

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fisheries industry, and academic institutions have teamed up with the Department of Marine Resources to organize a series of lionfish derbies. Since 2009, a total of nine derbies on four island groups throughout the Bahamian archipelago have occurred, resulting in the culling of thousands of lionfish.

In the Pacific, lionfish are marketed as a food fish since only the spines, and not the flesh, contain venom. Likewise, Bahamians are attempting to develop a lionfish commercial fishery as another means of invader control. Lionfish cooking and handling demonstrations are frequently held while several local restaurants now offer lionfish on their menus. Aiming to protect highly sought-after, native Nassau grouper stocks and at the same time reduce invasive species populations, one local environmental NGO launched a clever campaign encouraging consumers to eat lionfish as an alternative during times when the grouper fishery is closed.

Perhaps the greatest irony of the lionfish invasion is that this potential ecological disaster has accomplished what years of traditional marine conservation advocacy in the Bahamas could not. It has attracted sufficient attention and concern, both locally and internationally, to mobilize resources that can be used to directly confront the invasion and at the same time, aid in building national capacity to address other environmental issues. Funded primarily by the Global Environment Facility (GEF) with the United Nations Environment Programme (UNEP) as the lead executing agency, the Bahamas launched a lionfish control pilot project in 2009. The project involves several local and international partners from governmental, non-governmental and academic institutions. It focuses on (1) lionfish ecological research, (2) invasive species policy and legislation development, and (3) public outreach and education. The project is part of a larger, regional effort involving five Caribbean countries, titled "Mitigating the Threat of Invasive



Figure 2. Some local and international participants of the experimental branch of the Bahamas' lionfish control pilot project. (L-R): Nicola Smith, Lad Akins, Krista Sherman, Frederick Arnette, Lindy Knowles, Jared Dillet, Trueranda Cox, David Bethel, LaKeshia Anderson, Christopher Dunkley, Ancilleno Davis; Kneeling: Stephanie Green.

Alien Species in the Insular Caribbean" (MTIASIC).

Because of the experimental branch of MTIASIC, Bahamians have received comprehensive training in areas such as native fish identification and marine survey methodologies and techniques. Lionfish and native species monitoring in selected coral reefs, mangrove systems and a variety of other near shore habitats now occurs on a quarterly basis in three island groups throughout the archipelago. Monthly proficiency dives are also conducted in order to reinforce recently acquired skills. Given these accomplishments, the lionfish invasion appears to have a silver lining: it has provided an opportunity for collaboration, creativity and growth in marine conservation in the Bahamas. However, it remains to be seen whether such momentum can be sustained over the long-term, especially once the generous funding and interest of the international community have dried-up.

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¹Ms Smith recently completed her Masters at UBC, for which Dr Daniel Pauly was a committee member. She is now the experiment coordinator of the Bahamas Lionfish Control Pilot Project, part of the GEF program.

