

# SEAFOOD SAFETY SAVVY: A HACCP UPDATE

from the Connecticut Sea Grant College Program, University of Connecticut  
and the Cooperative Extension & Sea Grant Programs, University of Rhode Island

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## ***A Message from the Editors:***

Welcome to our fourth issue of *Seafood Safety Savvy*. Our goal is to keep you updated on changes in the seafood HACCP and sanitation control programs. As always, if you need further assistance, please contact us.

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### ***Did you see***

- the Feb. 2001 *Consumer Reports* article, entitled "America's Fish: Fair or Foul?" This was a follow-up to their last report on seafood in 1992. They identified four areas they see as problematic: spoilage, *E. coli*, histamine and methylmercury, the latter considered the worst. On the positive side, *Consumer Reports* called 71% of the samples they tested, fresh; however, they did outline some recommendations to continue to improve regulations and standards for seafood. Check it out!
- the General Accounting Office (GAO) report on seafood, titled *Food Safety: Federal Oversight of Seafood Does Not Sufficiently Protect Consumers*, released January 31, 2001. To download the report, go to <http://www.gao.gov>. Click on GAO Reports, Agriculture and Food, and then report number GAO-01-204. You can also order by phone by calling (202) 512-6000.



## **Additional Training Course Offerings**

There will be a ISSC Shellfish HACCP course offered during the Fall 2001 in Connecticut. Contact Nancy Balcom at (860) 405-9127 if you are interested in more information.

## **Alternative Seafood HACCP Training Update**

In the previous two newsletters, we discussed an Internet-based distance education HACCP training course being developed through Cornell University (Ken Gall, NY Sea Grant). The goal of the project is to convert the existing seafood HACCP training curriculum to a format accessible via the Internet with paid registration. Registered students will be required to complete the traditional "lecture-based" portion of the course--equivalent to the first two days of the three-day course. Arrangements will then be made with a certified HACCP instructor to work on the practical HACCP plan exercises, or "day three" of the course. Students completing the Internet part of the course will receive a certificate from Cornell, thus giving them a "pass" to the third day. If students decide to complete the "hands-on" portion of the course, they will receive the AFDO certificate. This will enable companies to train more employees in seafood HACCP basics even if they do not want to participate in the third day.

**Where are we now?** The course design has been completed and reviewed by members of the steering committee. The HACCP Internet course has gone through rigorous evaluation by members of academia,  
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regulatory agencies and industry in a final review of the entire course. The deadline for this review process was May 25, 2001. Once final revisions are made, the course availability will be announced.

## **Alternative Sanitation Control Procedures Training Update**

We want to remind you that the Seafood HACCP Alliance developed a one-day Sanitation Control Procedures (SCP) course. This course is not part of the mandatory training, but is highly recommended to help industry meet the HACCP regulation requirements for sanitation procedures, monitoring and recordkeeping. We previously announced that Delaware State University had received a USDA grant to produce a training video on SSOP development and implementation. The video has been completed, edited, and is undergoing review. Final revisions are due by June; distribution is projected for the end of summer. These tapes, when available, should be used with the SCP manual. Instructors can use the video to complement their own presentations, or industry can use this as a stand-alone teaching tool with the manual to train employees.

Finally, a *Sanitation Control Procedures Compendium* should be appearing on a Virginia Tech website soon. It will provide more in-depth information on sanitation protocol and monitoring.

*We will keep you posted on all of these new training opportunities and resources.*

## **What's New in Hazard Assessment?**

Federal assessments have targeted three high-risk hazards for additional evaluation: *Vibrio parahaemolyticus*, *Listeria monocytogenes*, and methylmercury. Here are updates on all three.

### ***Vibrio parahaemolyticus***

In January 2001, FDA announced the availability of a draft report on the estimated public health risks associated with raw oysters containing this pathogen. *V. parahaemolyticus* is a bacterial species that occurs naturally in oysters. Occasionally this organism causes illness in humans, following the consumption of raw oysters. In recent years, several outbreaks have occurred, involving many consumers, including an outbreak linked to harvested oysters and clams from Long Island Sound in 1998 that affected 23 people from Connecticut, New York

and New Jersey. This was the fourth multi-state outbreak of *V. parahaemolyticus* in the U.S. since 1997.

The draft risk assessment addresses a number of issues, including how often the pathogen occurs in water and shellfish, the relationship of the level of pathogen ingested to severity of illness, the affect that consumer health has on the response to the pathogen, and the influence of post-harvest handling. This may result in new guidance and preventive measures for the control of this hazard. The draft risk assessment can be found at <http://vm.cfsan.fda.gov/~dms/vprisk.html>. The comment period has ended; so keep an eye out for the final version.

### ***Listeria monocytogenes***

The FDA and USDA have released a draft assessment of the potential relative risk of listeriosis from eating certain ready-to-eat foods. *Listeria* is a public health concern because it can be life-threatening. It primarily affects pregnant women, older adults, and persons with weakened immune systems. It is estimated to cause 500 deaths per year, and can result in miscarriage, fetal death, and severe illness or death of a newborn infant. This joint effort looked at a wide variety of food commodities, including seafood products.

#### ***How does this affect the seafood industry?***

This report cites cold smoked seafood as particularly high risk, and other fish products, such as preserved fish and cooked, ready-to-eat crustaceans, as potentially risky, requiring further evaluation. In the assessment, they call on industry and regulatory members to undertake new strategies to prevent recontamination of ready-to-eat foods. This led the FDA to issue a Consumer Advisory for at-risk consumers that specifically states that refrigerated smoked seafoods should not be eaten, unless they are contained in a cooked dish, such as a casserole.

The website address for this draft risk assessment is: <http://www.cfsan.fda.gov/~lrd/fr01119b.html>. Public comment on this draft assessment has closed; so keep an eye out for the final version.

### ***Methylmercury***

Well folks, mercury issues have not gone away and the debate is heating up. Mercury, in the form of methylmercury, can accumulate in certain fish species – this has to do with the size and age of the fish. Mercury occurs naturally in the environment

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and can be released in the air as a result of industrial pollution. Mercury falls from the atmosphere directly into water, accumulating in freshwater streams and in oceans. Bacteria in the water can transform the mercury into the highly toxic form, methylmercury. Fish absorb methylmercury from the water as they feed and “bioaccumulate” or concentrate the mercury. Larger/older fish generally accumulate higher levels of this toxin in their tissues as it is bound to proteins (e.g. fillets). Skinning and trimming does not significantly reduce the mercury concentration in the fillets, nor is it removed with cooking.

In high enough levels, this toxin will affect brain development and the nervous system. Particularly at risk are fetuses, nursing babies and young children. While declaring seafood to be an important part of a balanced diet, both the FDA and EPA have issued consumer advisories which warn pregnant and nursing women and women with young children against consuming certain fish species which are most associated with this pollutant. Currently, shark, swordfish, king mackerel and tilefish are listed as the species to avoid. Certain freshwater fish may also have very high levels of this toxin and consumers are advised to check state fish consumption advisories.

**What does this mean to you?** If you open your *Fish and Fishery Products Hazards and Controls Guide* to the chapter on methylmercury, you will find very little information. That is because the FDA planned to re-evaluate its position on methylmercury in light of new data on the health effects from consuming fish with this toxin. As a result, there is no advice in the guide on how to assess the risk and hazard of mercury in fish nor does it state any recommended controls. While the action level for methylmercury remains at 1.0 ppm, and certain fish species are identified (bonito, halibut, Spanish mackerel, king mackerel, marlin, shark, swordfish, bluefin tuna), domestic producers do not usually incorporate this potential hazard into their HACCP plans, pending further guidance from the agency.

The FDA’s Center for Food Safety and Applied Nutrition has announced that as part of its priorities for fiscal year 2001, the Center will develop an overall public health strategy for future regulation of methylmercury in commercial seafood. The current action level may be changed and HACCP plans may need to address this issue. You should keep on top of this emerging issue, by checking the following websites to get updated information as it becomes available: <http://www.epa.gov>, <http://www.fda.gov>, or <http://cfsan.fda.gov> and search for “methylmercury”.

## Attention Shellfish Program Members

Effective 1 May 2001, the FDA will no longer print or mail copies of the Interstate Certified Shellfish Shipper List. The monthly list will continue to be posted on the FDA, Center for Food Safety and Applied Nutrition (CFSAN) webpage at:

<http://www.cfsan.fda.gov/~ear/shellfis.html>

The 1999 National Shellfish Sanitation Program (NSSP) Model Ordinance is now available ONLY on the Internet. You can download the model ordinance from either of the following websites:

<http://www.cfsan.fda.gov/~ear/nsspotoc.html>

[http://www.issc.org/issc/On-line\\_docs/onlinedocs.htm](http://www.issc.org/issc/On-line_docs/onlinedocs.htm)

## 2001 FDA Seafood Safety Priorities

### "A" List

1. Initiate 4th year of inspections of domestic seafood processors; focus on products in which pathogens and scombrototoxin are hazards, and firms that have not yet established adequate HACCP plans.
2. Complete evaluation of program performance through the 2nd year, with an emphasis on the state of the industry; assess whether program is accomplishing objectives; identify where and how program needs to be re-directed.
3. Establish performance standard for *Vibrio vulnificus*; work with ISSC to create effective control strategy.
4. Publish *Vibrio parahaemolyticus* risk assessment; work with ISSC on control plan implementation.
5. Develop overall public health strategy for methylmercury in commercial seafood; determine if current consumer guidance should be revised.

### "B" List

1. Make progress with Canada, NMFS, and States, regarding optimum seafood HACCP inspection frequency.
2. Improve existing guidance to harvesters of scombroid species on proper onboard handling; educate industry on how to comply with guidance.
3. Develop good aquacultural practices to ensure aquaculture waters are not a source of pathogens or contaminants.
4. Develop 3rd edition of *Fish and Fishery Products Hazards and Controls Guide*.
5. Evaluate results of parasite survey on human illnesses; determine whether sufficient documentation of the need for HACCP controls for this hazard for certain species exists, or whether additional information is needed.