

Rhode Island Southeast Asian Community Fish Ingestion Project Report



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Forward

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I. EXECUTIVE SUMMARY

This purpose of this project was to work with the Southeast Asian communities to determine the most effective manner to communicate environmental health risk issues. The primary goal of this project was to assess Southeast Asian residents' environmental literacy concerning mercury contamination in fish and to gather cultural insights to inform the state's outreach and education planning. The survey was designed to determine content, communication channels and credible spokespeople and the proper message to inform this community about environmental pollutants in fish. The Partners were The Rhode Island Departments of Environmental Management (DEM) and The Department of Health (HEALTH), the Brown University Center of Environmental Studies (CES) and the Socio Economic Development Center for Southeast Asians (SEDC). SEDC recruited six individuals from the Southeast Asian community in Providence to conduct the face-to-face surveys.

A total of the 95 respondents were surveyed in person in July 2004. Respondents were born in the following countries: Cambodia 56.8% (54/95), Laos 26.3% (25/95), the United States 11.6% (11/95), and Thailand 5.3% (5/95).

Major Findings

- Southeast Asians in Rhode Island eat fish; they like it and believe it is good for them and their families. This is true across ages and educational levels.
- The majority (82%) feels that fish in the United States is at least somewhat safe, and only 34% had ever heard of any bans on fishing or fish consumption in Rhode Island.
- Participants buy fish based on the *kind of fish* it is - 68% and *price of the fish* 31%.
- Only one third (34.7%) heard of any fish in Rhode Island containing mercury.
- Most participants (72%) believe pregnant women, children less than five years of age, and the elderly should be careful about eating contaminated fish. Far fewer felt that this was the case for older children and teens or adults.
- It is unclear what impact fish advisories have had on this population. Of those who had heard of some kind of fish ban in Rhode Island only a small percentage (14%) stated that they changed their habits with regard to fish consumption.
- When it comes to who people trust for environmental health information, doctors, scientists, and state agencies are the most trusted professions. Environmentalists, teachers, newspaper, television, radio and lawyers are moderately trusted by the community.

II. BACKGROUND

This project worked with the Southeast Asian communities to determine the most effective manner to communicate environmental health risk issues. The two Rhode Island governmental agencies have limited resources and have not, in all cases, had an outreach strategy that is geared for these non-English speaking constituencies. The information collected in this project will allow each agency to modify or develop an outreach strategy that will now include these new groups.

The Southeast Asian community has an above average fish consumption rate. A number of freshwater and saltwater fish species have elevated mercury and PCB levels in their tissues and there is concern that the compounds, especially mercury, will bio-accumulate in people who eat a

lot of fish. This is true especially for pregnant women and children under three years of age. Mercury can cross the placenta and influence the neurological development of the fetus. Mercury exposure can affect how a baby learns, moves, and behaves. In addition, high levels of mercury in the body can cause harm to an adult's kidneys and brain. Symptoms can include irritability, shyness, tremors, changes in vision or hearing, or memory problems.

HEALTH has recognized the need to inform people about mercury and PCB levels in some fish. Since this can be a problem, the department has developed a brochure to raise awareness so people can make better choices in their eating habits. The message of the brochure is that mercury is bad, but eating the right kinds of fish is good. HEALTH has experience in developing information that can be used to present environmental health issues. The department also used input from neighborhood health plan clinics to gather information concerning environmental mercury issues.

The DEM is responsible for enforcing the fishing laws in the state. Several of the recreational fishing areas are located in state parks. It is the observation of the DEM environmental police officers that there is not a good understanding of the fishing laws in non-English speaking communities including the Southeast Asian community. Concerns have been raised that people do not understand the simpler message of size and catch requirements. Therefore questions have been raised on the effectiveness of the existing awareness campaign concerning eating fish that may have high mercury or PCB levels.

III. PROJECT DESCRIPTION

The Rhode Island Departments of Environmental Management and HEALTH, Brown University and the Socio Economic Development Center for Southeast Asians (Partners) worked together to increase environmental and public health awareness of the Southeast Asian community on the issue of mercury and Polychlorinated Biphenyls (PCB) ingestion.

Immigrant populations, especially from the Southeast Asian community, fish in the freshwater rivers and streams throughout Rhode Island and the ocean. The per capita fish consumption of this group is high and Rhode Island coastal waters have an abundance of blue fish and striped bass that contain levels of PCB and mercury. In addition, due to the industrial nature of Rhode Island, a number of fresh water rivers are sources of mercury that accumulate in the tissues of these fish. Approximately 2% (23,167) of the Rhode Island population is Asian. This project will focus its efforts in Providence County where 76% of the Rhode Island Asian community resides. The goal of this project would be to ultimately reach the whole population over a course of five years.

The Partners initiated an environmental health initiative that focused on the potential problems of eating fish that contains high levels of mercury. The project laid the foundation for a mechanism to listen to and then inform this public about the community's environmental health concerns. The project used an environmental literacy tool developed by Brown University that determined the best approaches to communicate with the community concerning the ingestion fish with elevated levels of environmental mercury and PCB. This project used two methods to collect information from the community. The SEDC worked to provide Brown University with community surveyors to survey Southeast Asians members about fish ingestion habits using an

environmental literacy tool. This organization and the local Temple were also used to set up meetings with the community to discuss environmental health issues.

This grant addressed three educational priorities, i.e., *Community Issues*, *Health and Environmental Justice*. These three priorities were explored in the following manner:

Community Issues – The Socio Economic Development Center for Southeast Asians is a community-based organization. Initial discussions indicated that there is not a high level of awareness of environmental health issues in this population. Lack of awareness of environmental issues can have detrimental impacts on young children and pregnant women who consume high levels of mercury-contaminated fish. The Partners developed community partnerships and targeted high-risk populations and determined the most efficient manner to increase the environmental health awareness of this community.

Health- A part of the mission of HEALTH is to provide public health information and services to Rhode Island residents. This project has allowed HEALTH to modify its outreach on health care and preventative measures towards the Southeast Asian community.

Environmental Justice

The primary target of this proposal is the Southeast Asian community in Providence County. Environmental awareness is not high in this community and the goal of this project is to increase their awareness of environmental chemicals in the fish supply. This project has given them access to environmental information and provided them tools to address their environmental health concerns. The state agencies have received information that has increased their capability to deliver health risk communication messages in a manner that will be received by this community.

IV. THE PROJECT PROCESS

The Partners began this project by meeting to discuss the issues related to mercury ingestion in the Southeast Asian population in Rhode Island. The group was interested in developing an effective communications strategy about risks and benefits of eating fish. CES then developed a draft survey that built on existing research about fish hazard done by Brown student Michael Joseph (2002). The survey was developed through repeated drafting and circulation among the Partners. The tool consisted primarily of closed choice items and included questions in the following categories: (See Appendix A for the complete survey)

- Fishing and fish eating behavior
- Awareness of food safety issues in US and abroad
- Awareness of specific fish safety issues
- Willingness to change behavior
- Trusted sources for information about safety
- Optimal ways to communicate to other people
- Basic demographic information

A. Recruitment of Surveyors

SEDC recruited six individuals from the Southeast Asian community in Providence to conduct the surveys face to face. Recruitment was based on the following criteria. Individuals who:

- Were fluent in English and either Laotian, Cambodian or Vietnamese
- Had some previous surveying experience,
- Were available on scheduled training dates and times
- Were able to read and write in both languages
- Had visibility/connections in their communities to ensure they could get to survey respondents.

Of the six people recruited, all were fluent speakers of English and one Southeast Asian language; four had prior experience administering surveys and all six were able to attend both training sessions as described in the following section. All had worked in or with the Southeast Asian community and felt comfortable going to locations where they might find fishers, as well as travel to other locations to interview, including fishing spots.

However, there were two recruited surveyors who were not fluent readers in their native language. Because of the scarcity of individuals meeting all the above criteria CES decided to permit those two individuals to administer their surveys in English for English-speaking community members. They made introductions and determined if the respondent would be comfortable continuing to ask the survey questions English. When the respondent preferred their native language rather than English the surveyor did not proceed.

B. Training Community Surveyors

To achieve consistency in collecting data the project relied on training the surveyors through two group training sessions utilizing orientation, role-playing, videotaping and group critiquing. CES conducted two, two-hour training sessions on consecutive evenings (July 12-13 2004) with the six recruited surveyors.

During the training sessions CES covered the general issues related to fish consumption and safety and the prospective surveyors own questions about the topic, and then introduced the survey. Most of the time was spent reviewing the survey items, the intent of the questions, and face-to-face survey-giving behavior (Appendix B). Because surveyors were native speakers who have contact with the target audience in their work or personal lives they were able to make suggestions about changes in wording and phrasing more appropriate to their audience.

After the first training session, surveyors were asked to pilot the survey on each other for practice and then pilot the survey on 1-2 people before the next evening. Only four were able to pilot for the following day. The second training session discussed any problems they encountered with asking specific questions and then we reinforced surveying skills by videotaping and watching each surveyor “mock administer” some questions from the

instrument. Fellow surveyors critiqued these role-plays with trainer assistance and all thought this was very useful and that they were prepared for their fieldwork.

C. Evaluation of Training

Both the trainers and the participants were enthusiastic about the training and trainees kept remarking that the practice role-playing was teaching them “so much” about interviewing. Among the most popular elements of training were: how to ask questions in an unbiased manner; how to verbally keep your respondent on track; how to restate questions; how to listen and accurately record responses.

There were three important limitations to the training: (1) not all surveyors piloted tested before they went into the field, (2) surveying was not monitored in the field, and (3) lack of input from the surveyors after all surveying was completed. Only four of the six trainees conducted their homework assignment of pilot testing the survey with 1 or 2 trial people. We assigned this activity so that the surveyors would come back into the second session with specific issues about the question wording and delivery. Had all 6 trainees conducted this task, the second days’ training session would have been more efficient.

V. FINDINGS

One hundred one persons were surveyed. Ninety-five people responded that they did eat fish and therefore were fully surveyed. The following two tables present the frequency of response by age and country of origin. No compelling relationships were seen between any of the areas studied when examined using cross-tab analysis.

Population Sample:

Age Group	Number	Percentage
Below 18	1	1
18 - 25	16	17
26 - 40	40	42
41 - 55	21	22
56 - 65	14	15
66 - 72	1	1
73 and above	0	0
Unknown	2	2
Total	95	100

Most of our respondents (57%) were of Cambodian birth. We were also able to reach smaller numbers born in Laos (26%), the United States 12%, and Thailand (5%). The respondents represent a moderately well educated community with most having completed high school or equivalent (47%). Additionally 17% of the individuals identified themselves as having completed some college, with 17% more having completed college or higher.

Country of Origin	Number	Percentage
Laos	25	26
US	11	12
Thailand	5	5
Cambodia	54	57
Total	95	100

A. Behaviors Relating to Fish Consumption

Most people surveyed, (91%) reported eating fish. Many (58%) catch their own fish. Among those who eat fish, 47% were categorized as “infrequent fish consumers”, eating fish less than once a week, 49% were regular eaters (eating fish one to four times per week, and only 5% were frequent eaters (eating fish four or more times per week. People eat fish because it tastes good (64%), and because they feel that it is good for them (49%). The majority of people surveyed obtain fish from a range of sources: 71% buy it from their local fish market, 58% catch their own fish, 43 receive it from friends and family, 43% buy it at the supermarket, and a few, 19% eat it at restaurants. *Those in the frequent consumption category never purchase their fish at the supermarket or at a restaurant.*

Sources of fish	Number	Percentage
Buy from local fish market	67	71
Caught their own fish	55	58
Receive from friends/family	46	48
Buy from supermarket	41	43
Eat at restaurants	18	19

Participants make their decision on which fish to buy, for the most part, based on *kind of fish* it is - (69%), and on the *price of the fish* (31%). Decisions about whether or not fish is safe to eat are most often based on *where it is bought* (43%) or where it is caught (41%). The majority, (82%) felt that fish in the United States was at least somewhat safe, and only (34%) had ever heard of any bans on fishing or fish consumption in Rhode Island.

B. Perceptions of Fish Consumption Risk

Only one-third of the participants had ever heard of a ban on fishing or fish consumption. The same was found to be true for whether or not they had heard of any food being unsafe in the United States (32%), any fish being unsafe in the United States (26%), or any fish in Rhode Island containing mercury (35%). This does not seem to have translated into a sense of food in general or fish specifically being unsafe in the United States. No one responded that they felt that food or fish was unsafe to eat in the United States. Very few of the respondents expressed any knowledge of fish being contaminated with any chemicals other than mercury. Most participants, (72%) believe pregnant women, (64%) children less than

five years of age, and the elderly (49%) should be careful about eating contaminated fish. Far fewer felt that this was the case for older children and teens (29%) or adults (26%).

Of those who had heard of some kind of fish ban in Rhode Island only a small percentage (14%) stated that they changed their habits with regard to fish consumption. The two main ways mentioned were that they stopped 62% (8/13) or that they limited 46.2% (6/13) the amount of fish consumed from areas with posted warnings. One respondent stated that they released fish caught in these areas. Those who did not change their habits after hearing about the warnings stated that they did not catch fish from the effected areas 24.1% (7/29), or that they did not eat any of the fish listed in the warning 24.1% (7/29).¹ Nine responded that they have been eating the fish in the advisory for years without becoming sick. Only one listed a disbelief in the warning as a reason, and only one cited a subsistence need as their reason for not changing their habits.

C. Trusted Sources Of Information About Health And Environment

Respondents were asked to indicate how much they trust people from various professions for information about health and the environment. Table 5 summarizes the survey findings. Doctors, scientists and state agencies are the most trusted professions. Most respondents (85%) ranked doctors with at least a score of “a lot of trust”. Many (73%) ranked scientists with at least a score of “a lot of trust,” and (67%) gave the same score to state agencies. Environmentalists, teachers, newspaper, television, radio and lawyers can be considered to be moderately trusted by the community. Though trusted, the local clan leaders, SEDC/community groups, the EPA, and religious organizations were on average trusted less than the other groups.

In general these citizens feel empowered in making decisions affecting their own health and the health of their families, with (81%) responding that they felt at least some power in making these decisions. Survey responses indicate that it is a community that requests officials to make changes for the benefit of the community. However, many people, (73%) responded that the community never comes together for this purpose.

Group	A lot of trust	Moderate trust
Doctors	85%	2%
Scientists	73%	21%
State Agencies	67%	25%
Environmentalists	53%	32%
Teachers	43%	31%
Television	39%	31%
Newspaper	37%	35%
Lawyers	37%	18%
Radio	31%	34%

¹ More respondents answered the question of whether or not they changed their habits after hearing of a ban than had answered “yes” to the question of hearing about a ban. This seems to be due to interviewer error, and some of those who responded no to the habits question appear to include some of those who responded that they had never heard of a ban.

In order to maintain a level of environmental health awareness in the community the agencies would like to hold a yearly meeting in the Southeast Asian community to discuss the hot topics of the day. This forum will allow the state agencies to gather information from this community on future outreach activities. This will also be a good opportunity for the state agencies to provide the next level of environmental health education that could be used by the community to avoid problems and lower the risk that is associated with environmental issues.

VI. OUTREACH PLAN

The primary goal of this project was to assess Southeast Asian residents' environmental literacy concerning mercury contamination in fish and to gather cultural insights to inform the state's outreach and education planning. The survey was designed to inform content, communication channels and credible spokespeople.

A. Message Types And Distribution

Based on the survey findings and input from the surveyors during the training sessions the Partners have developed a general communication strategy intended for all fish eaters (fishers /providers of fish and fish consumers), and more targeted communications about problems associated with Hg, PCB and other hazards. In order to be certain of a good fit between messages and target audiences, the Partners have pre-tested a specific message design collaborating with Southeast Asian residents. Our original theory allowed for the fact that it was quite possible that upon working with a panel of Southeast Asians to develop messages, we would find that there were differing aspects of the content and approach that needed to be tailored for subsets of the larger Southeast Asian population. For example, messages for those who fish may very well have a certain emphasis, while messages for pregnant women and small children younger than six, a different emphasis. As a result of our discussions with the focus group, however, it was decided that the messages we had developed suited each segment of the targeted population. The following represents general messaging based on the survey results:

- *“How much fish do you eat?”*
Because so many Southeast Asian residents eat fish, it is vital to educate people about how to “monitor intake”. It is important to stress that the risk from consuming fish is a qualified risk. Education materials and messages should address Monitoring and Moderation rather than giving up fish entirely.
- *Where does this fish come from (where was this fish swimming)?*
Because many surveyed relied on the source of their fish to judge its quality, we recommend developing a message along with the community that stresses the importance of knowing about source. This element of a campaign could coach people to ask questions about the fish they obtain from friends and markets. The social/cultural acceptability of this approach would have to be clearly vetted with the community and subgroups.
- *Healthy fish meals in the US*
Residents surveyed were mostly unaware of any food contamination issues in the US. Framing the discussion for immigrants in this manner may get attention.

- *Messages should always include alternative good sources of protein.*
- Mercury contamination in fish can't be seen or smelled
- It is most important for pregnant women and small children younger than six to receive an explanation of alternative good sources of protein and other healthy food.

In order to provide the message to the public on the subject of mercury in fish, Health developed the first "Fish is Good, Mercury is Bad" brochure in 2001. This document, written in English, served as outreach material and was distributed by Health with other health warning and nutritional information. Upon review of the results of the initial survey, it was decided that a brochure targeted specifically to the Asian community would better serve this community. The group decided to revise the brochure to include facts specifically directed at women who are pregnant or may become pregnant and young children. Information on the harmful effects of Mercury was added and the specific types of fish commonly eaten by this community were addressed. The working was careful to note that the nutritional value of fish was an important fact for this community, however, it was also important to choose the right fish to eat. The brochure was enhanced with photographs representative of the community and an insert card was developed as a "quick reference" for users.

This brochure was then sent to a professional translation service, to be translated into three languages: Cambodian, Laotian and Vietnamese, determined to be the languages required to reach the greatest number of local Asian residents. Upon completion of the 3 brochures, a focus group was convened with 8 members of the local Southeast Asian community in their community center to discuss the brochures. All participants had previously received the brochure in English and their native language for review.

Among the Asian participants were 3 surveyors and at least one person representing each nationality who had reviewed the translated brochures. Participants were varied, from local community members, to languages bank staff, college students, SEDC employees and a local social worker. Age varied from approximately 25 to 85. One woman and seven men participated. All participants in this group also read and spoke English.

The discussion began with the topic of the "message" of the brochure. What was it? Was it clearly stated? Was it understandable by the target population? The Vietnamese representative felt that the wording was clear and that the message was also clear...eat fish in moderation, unless you were pregnant. The woman who participated was recently pregnant and stressed the need for this type of education in her population. The Laotian and Cambodian representative discussed that the language used in their brochures was a "formal" translation and may not be useful to that younger audience that speaks in a more colloquial form.

We agreed that translations need to be simple and in the form that most will understand. This group also confirmed that many Asians might be able to speak their native languages, however they cannot read it.

The group also suggested that there was a need for further information on the definition of Mercury and its effects on human health. The group expressed a need for general nutritional information, as native foods are not always available here and many Asians make poor nutritional choices in their diets.

The group felt the brochure assisted in choosing the right kinds of fish to eat, and they suggested additional materials, such as pictures, would also be of assistance. It was also noted that since many of the types of fish referred to in the brochure are not available in Asia, that no equivalent Asian word be used for translations of fish names. Use the English word for the fish and most will recognize that.

When asked about the message for the “risk group” the participants indicated that they felt this brochure was meant for the general population, however certain groups (pregnant women and young children) were highlighted.

They liked the appearance of the brochure, however they noted that some copying/printer issues. This may be corrected with final printing. They felt that the photos were appropriate and the message was clear.

We also discussed that the general reserved nature of this population often prevents them from asking questions and seeking out information such as this. The group stressed the need for informational materials on health topics such as this, written in their languages and available throughout their community. They discussed the fact that although placing these brochures in Doctors office would be helpful, it probably would be better to put them out in their community...in their temples, churches and local shops, as these are the places they visit most often. Although we discussed the point of sale notice, most felt that local fish markets would not agree to this type of warning notice, fearing loss of sales. A suggestion to do mailing was also rejected due to the high rate of mobility of this population and the potential for a high rate of mailing return.

Participants agreed to suggest appropriate revisions to the language for the final version of the brochures. Upon receipt of the revisions, the information was returned to the contractor for adjustment and a final copy of the brochure was prepared for printing.

B. Credible Spokespeople

Traditionally research has demonstrated that Southeast Asian immigrants have lived in rather insular communities relying on the decision-making and authority of clan leaders (Fadiman, 1997; Yee, 2005; Diversityrx.org). According to the Southeast Asians surveyed, the professions most trusted as sources of information about contaminated fish and mercury are doctors and state officials, scientists and the media. Perhaps due to growing acculturation, they would rely less on clan and religious leaders.

Because respondents most trust doctors and other scientists, DEM and HEALTH will communicate some messages through physicians, and other health care providers and their offices and clinics.

C. Communication Channels

Survey respondents are obtaining fish from a wide variety of sources including supermarkets, local fish markets, and from local fishing activities. Only a few people in the target audience had heard of contaminated food in the United States. Tainted fish is not a major concern and they put trust in the providers of their fish. This widens the possibilities for getting the right messages to people at the right time. DEM and HEALTH will follow up on the following communication channels:

- DEM will investigate the distribution of brochures to Southeast Asians at state parks that have fishing locations. In addition DEM will investigate the use of potential new Bay access points and signage incorporating fish consumption messages, including fish images.
- Work with Department of Human Services to distribute material for those applying for food stamps and temporary emergency assistance.
- Use health care providers, specifically doctor's offices and health clinics as a place for distributing messages. Because respondents most trust doctors and other scientists, we will distribute brochures through physicians, and other health care providers and their offices and clinics. In addition, referring to the latest known science may have a force and credibility for this population. Scientific messages should use clear and easy to read language to convey concepts including:
 - Mercury contamination in fish can't be seen or smelled
 - It is most important for pregnant women and small children younger than six to receive an explanation of alternative good sources of protein and other healthy food.

SEDC has agreed to conduct a number of outreach activities in Providence over the next six months. They will organize meetings of the Southeast Asian community and will reinforce the targeted communications about problems associated with Hg, PCB and other hazards. State agencies will participate in these meetings whenever possible. Meetings are planned for the following dates:

1. First Workshop at Cambodian Temple, Providence will be held on March 24, 2006
2. Second Workshop at Cambodian Temple, Providence will be held on April 17, 2006
3. Third Workshop at Cambodian Temple, Providence will be held on June 2, 2006
4. Forth Workshop Laotian Temple, Providence will be held on July 21, 2006

Each outreach activities at the Cambodian Temples will be in Providence but at different locations. In addition to the above meetings, SEDC will distribute approximately 2,500 brochures to approximately ten Asian stores/restaurants, three Khmer (Cambodian) temples and one Laotian temple.

D. Getting Feedback From The Target Audience

The Partners propose using two methods for receiving feedback from the members of the Southeast Asian community about fish consumption. The two methods are:

- Convening a resident panel to review developed materials, and

- Tapping into scheduled community meetings (both religious and social) to present and receive information concerning environmental health issues.

HEALTH and DEM convened a panel of Southeast Asian residents to collaborate on the specific messages. SEDC recruited the panel, and sessions were held in a neighborhood location convenient for residents. The panel consisted of 6- 8 people who met in an informal focus group. The participants gave input to specific communication strategies developed. The results of this focus group have been discussed in Section VI. (Outreach Plan).

E. Project Sustainability

The SEDC and the Khmer Buddhist Temple of New England will be used for outreach with the Southeast Asian Community. HEALTH and DEM will work to set up a long-term relationship with these organizations through the contacts made during this project. The two organizations will initially meet with the community during appropriate festivals throughout the year. The primary festivals include Phchum Benin middle of September until early October and Cambodian's New Years on April 13 –17. The project has hired a number of individuals to conduct surveys and to review the outreach products of the project. Based on these relationships it is anticipated that a number of champions will be developed who will then work with the agencies to identify other health and environmental topics of interest to the Southeast Asian community. HEALTH and DEM will use this relationship to meet and discuss future issues of common interest.

VII. PROJECT EVALUATION

The evaluation consists of three phases, a formative evaluation, a process evaluation and an impact evaluation.

A. Formative evaluation:

The initial project proposal was based using a focus group with the target populations to serve as the basis for the formative evaluation. Brown University was added as a Partner to this project and had experience using an environmental tool to collect information from the target community. The environmental literacy tool helped to develop the health messages that will be used change behavior concerning fish ingestion. The Partners began this project by meeting to discuss the issues related to mercury ingestion in the Southeast Asian population in Rhode Island. The group was interested in developing an effective communications strategy about risks and benefits of eating fish. CES then developed a draft survey that built on existing research about fish hazard done by Brown student Michael Joseph (2002). The survey was developed through repeated drafting and circulation among the Partners. The tool consisted primarily of closed choice items and included questions in the following categories: (See Appendix A for the complete survey)

- Fishing and fish eating behavior
- Awareness of food safety issues in US and abroad
- Awareness of specific fish safety issues
- Willingness to change behavior
- Trusted sources for information about safety
- Optimal ways to communicate to other people
- Basic demographic information

B. Process Evaluation

Process evaluation allows us to track progress of the project during implementation, provide feedback and assist us in determining whether changes are needed during the implementation of the intervention.

The process evaluation occurred at two points of the project. The first involved evaluation that occurred upon completion of the survey. There were discussions with the surveyors and principal investigators to determine the relationship between the individual surveyor and the respondent. In addition CES studied the relationships between individual surveyors. As a result of these discussions, they were able to evaluate the use of the tool and interpret issues in the responses that may have been directly related to the “style” of the surveyor. This factor may have accounted for some of the confusion reported by the surveyors and for some non-responsive answers. In general, however, evaluation at this point helped us sort through survey results and suggested that the tool was providing an accurate reflection of the respondents’ opinions.

The second area of process evaluation occurs at the point when the targeted community becomes familiar with the project results and incorporates the message into their daily life.

The process evaluation can be determined by the findings from the formative evaluation but, in this case, will be in the form of:

- Number of interventions including the number of, brochures disseminated, or community meetings
- Number of attendees at the community meetings.

The major community meetings have been planned for 2006 and we do not have these statistics at this time.

C. Impact Evaluation

Impact evaluation has used the methodologies of the in-person surveys and focus groups for the same reasons as noted above, in-person surveys and post-intervention focus groups. The impact evaluation explored the following areas.

- Knowledge- did the target populations learn new information about fishing, mercury, and PCB after they received the intervention?

Based on the survey information, it appeared that the survey was very successful in broadening the community's knowledge about the concerns related to eating fish. No one responded that they felt food or fish in the US was unsafe to eat and very few had heard about a ban on fishing or fish consumption, however many indicated that they had heard about concerns for pregnant women and children. It was interesting to note that those in the category of frequent fish consumers never purchased fish in a supermarket or restaurant. The survey proved helpful in alerting this population to the concerns related to fish consumption.

- Skills – did the target populations learn new skills on how to fish safely and reduce the risk of fishing in unsafe waters?

Based on knowledge of contamination concerns, 62% indicated that they stopped or limited (46%) the amount of fish that they consumed from areas with posted warnings. It appears then that this method of communication is a success with this community.

- Attitudes – toward the validity of the relationship between mercury, PCB in fish and potentially harmful health effects. Attitudes toward the two state agencies as trustful sources of health information and fishing.

Survey results strongly indicate that this community looks very favorably upon the scientific community-doctors, scientists and state agencies-to provide information related to health and the environment. It is clear that this community wants officials, who they trust, to guide them in health-related decisions. This finding suggests that increased outreach from these parties, on this and other health and environment-related issues, would benefit this community.

- Behavior- Have the target populations changed or modified their fishing practices and the location of where they fish?

While only a small percentage stated that they had changed their habits with regard to fish consumption, most did acknowledge that they had stopped or limited the amount of fish they consumed in areas with posted warnings. A small number of those surveyed indicated that they had been eating fish in areas with advisories for years and had never become sick. Overall, it appears that fish advisories that target specific types of fish to avoid or specific locations are effective measures to communicate concern.

Appendix A Fish Consumption Survey

Interviewer's Name:

Date:

Time:

Location:

Thank you for taking the time to answer these questions about Rhode Islanders and the environment. The survey should take about 20 minutes. You may have some questions about this topic, but I am not an expert, so at the end of the survey I will provide you with a pamphlet that has information about it and places you can go for more information.

(INSTRUCTIONS TO INTERVIEWER IN PARENTHESIS/CAPS)

1.) The first few questions are about fish.

Do you and your family eat fish? Fish means fresh or saltwater finfish, shellfish, and some other underwater animals in ponds, lakes, rivers, streams and oceans.

- Yes
- No

(IF NO THANK AND CONCLUDE INTERVIEW)

(If YES)

1a. What part of the fish do you eat/use?

(READ AND CHECK ALL THAT APPLY)

- Whole fish
- Heads
- Organs
- Fillets

1b. How do you cook the fish?

(READ AND CHECK ALL THAT APPLY)

- Broil
- Bake
- Fry
- Stew
- Make fish soup
- Raw
- Dried

2.) How often do you/your immediate family eat fish each week?

(CHECK ONLY ONE)

- Less than once/wk
- 1-2 times/ wk
- 3-4 times/wk
- 4-5 times/wk
- 5-6 times/ wk
- every day

3.) What are the main reasons that you/your immediate family eat fish? (CHECK ALL MENTIONED)

- It is good for you
- Tastes good
- Price is not expensive
- Heritage/tradition
- Like to catch and eat
- Other: _____

4.) Which kinds of fish do you and/or your immediate family eat?
(REFER TO DEM POSTER...INDICATE WHICH FISH NAMED/IDENTIFIED)
(Probe: Here are some pictures of fish to help you identify which fish you eat.)

5.) Are there any kinds of fish that you /your immediate family do not eat?

- Yes
- No

If yes, which ones?

Why?

6.) Where do you get most of the fish that you and your immediate family eat?
(CHECK ORDER MENTIONED)

- Local fish market
- Supermarket
- Restaurant
- You catch the fish
- From friend and family who catch fish

Other: _____

(IF THEY CATCH FISH WAS INDICATED...READ #7)

((IF THEY CATCH FISH WAS NOT INDICATED...READ #7)...SKIP TO #9)

7.) Where do you go fishing? (NOTE EXACT WORDS USED & SURVEYOR INTERPREATION OF LOCATION)

8.) Do you generally eat the fish you catch?

- Yes
- No
- Yes & share with others (not including immediate family)

9.) How do you decide on which fish to buy?

- Price
- Type of fish
- Where it comes from
- The kind of store where you buy it
- You know the owner of the store that sells fish
- Other: _____

10.) How do you know if a fish that you catch or buy is healthy to eat? (CHECK ALL MENTIONED)

- By the color
- By the smell
- By the fish gills
- Where you buy it
- Where you fish

Other: _____

(IF GILLS, COLOR – PROBE)

“What about the gills tells you that the fish is healthy to eat or not?”

(IF LOCATION OF FISHING OR POLLUTED WATER IS MENTIONED)

Where are polluted fishing areas in Rhode Island? _____

11.) In general, how safe do you think the food in the US is? (CHECK ONE)

- Very Safe
- Somewhat safe
- Not safe
- Don't think about it

12.) Have you ever heard about any food that was unsafe to eat in the US?

- Yes
- No

If so can you tell me what you heard? _____

13.) In general, how safe do you think the fish in the US is? (CHECK ONE)

- Very Safe
- Somewhat safe
- Not safe
- Don't think about it

14.) Have you ever heard about some fish in the US that is unsafe to eat?

- Yes
- No

If so can you tell me what you heard? _____

15.) Have you ever heard about any fishing bans or seen any warnings in Rhode Island that say 'do not eat the fish?'

- Yes
- No
- Don't know

(IF NO...SKIP TO #16)

(IF YES) Where did you see/hear about this? Who gave you the information?

15a). (IF YES) After you heard about the warning, did you change your fish eating habits?

- Yes
- No
- Don't know

(IF NO...SKIP TO #15c.)

15b). (IF YES) How did you change your eating habits? (CHECK ALL MENTIONED)

- Stopped eating all fish
- Stopped eating fish from the areas where the warnings were posted
- Eat limited amounts of fish from the areas the advisories are posted
- Release some or all fish from the areas the advisories are posted
- Eat more fish obtained outside the areas advisories are posted
- Other: _____

15c). (IF NO) Why didn't you change your eating habits? (CHECK ALL MENTIONED)

- I don't catch any of the fish in the warnings
- I don't eat any of the fish in the warnings
- I don't think the warning is correct
- People have been eating fish in the advisories for years and they are not sick
- I need the fish I catch to feed myself
- I need the fish I catch to feed my family
- Other: _____

16.) Who should be most careful about eating fish that is contaminated?

(READ AND CHECK ALL MENTIONED)

- Pregnant women
- Children less than 5 years old
- Teens and children over 5 years old
- Men and Women over 18 years old
- Older people

17.) Now I'm going to read a list of names of chemicals. Which chemicals are in some fish in Rhode Island waters?

(READ AND CHECK ALL MENTIONED)

- Mercury
- Lead
- Asbestos
- Dioxin
- PCBs
- None
- Not Sure/Don't know

(NOW I AM GOING TO READ A STATEMENT ABOUT SOME DANGER OF EATING CONTAMINATED FISH):

“Some freshwater and saltwater fish in Rhode Island have dangerous chemicals called mercury and PCB in their tissues. Scientists believe that if people eat a lot of these fish, dangerous chemicals will stay in the person's body and cause sickness. If a pregnant woman eats too much Mercury– contaminated fish the newborn baby may have problems with learning, moving, and behavior. Also, high levels of mercury in the body can cause harm to an adult's kidneys and brain.”

18.) Have you ever heard of mercury and PCB contamination in fish before?

- Yes
- No
- Not sure

(IF NO...SKIP TO #20)

19.) How much do you believe this warning?

- Completely believe
- Believe
- Don't believe at all

20.) Generally how much do you trust people from each of the following professions for information about health and the environment.

(DON'T READ THE NUMBERS - CIRCLE ONE NUMBER FOR EACH ITEM USING THE FOLLOWING SCALE.)

Sources of Information	No Trust	Minimal Trust	Some Trust	Moderate Trust	A Lot of Trust	Complete Trust	Don't Know
Doctors	1	2	3	4	5	6	0
Environmentalists	1	2	3	4	5	6	0
Lawyers	1	2	3	4	5	6	0
Newspapers	1	2	3	4	5	6	0
Teachers	1	2	3	4	5	6	0
TV	1	2	3	4	5	6	0
Radio	1	2	3	4	5	6	0
Scientists	1	2	3	4	5	6	0
State agencies HEALTH, DEM, DHS	1	2	3	4	5	6	0
Local Clan Leaders	1	2	3	4	5	6	0
SEDC / Community groups	1	2	3	4	5	6	0
Federal EPA	1	2	3	4	5	6	0
Religious Organizations	1	2	3	4	5	6	0

21.) What do you think is the best way to get the word out to people in your community about the fish that are safe to eat? I'll read you a list of ways.

(READ AND CHECK ALL MENTIONED...IF THEY SAY MANY, FORCE TO TOP 3)

- Ethnic and Asian markets
- Supermarkets like Shaw's
- Places of religious worship
- Schools
- Places of work
- Restaurants
- Radio
- Television
- Community Organizations
- State Agencies
- Fishing License Shops
- Newspaper (PROBE FOR WHICH ONES)

Other _____

22.) How much power do you feel you have to make important decisions that affect your health and the health of your family? Would you say (READ OPTIONS)?

- A lot of power
- Some power
- Very little power
- No power

23.) In the past 12 months, how often have people in your community gotten together to ask officials to do something beneficial for the community?

(PROBE...NOT NECESSARILY YOU, BUT DOES YOUR COMMUNITY GET TOGETHER?)

- Never
- Once
- A few times (less than 5)
- Many times (more than 5)

24.) How many community groups or organizations do you take part in? _____

25.) Lots of people find it difficult to get out and vote. Did you vote in the last local election?

- Yes
- No

26.) Did you vote in the last state/national/presidential election?

- Yes
- No

And finally, a few general questions about you.

27.) Please indicate: Male ___ Female _____

28.) Age: Less than 18 ___
18-25 ___
26-40 ___
41-55 ___
56-65 ___
66-72 ___
73 and up ___

29.) Country born in _____

30.) What city / town do you live in? _____

31.) How long have you lived in Rhode Island? _____

32.) Your occupation: _____

33.) Education level - highest grade completed

Less than 6th grade ___
6th grade ___
8th grade ___
High School or GED ___
Some college ___
College grad ___
Post grad ___

33. Primary language for reading material _____

Thank you very much for your time today. Here is a pamphlet with more information about mercury in fish. Please call the number inside or visit the website for more information. If you have any questions about this survey, please contact Christina Zarcadoolas. Thank you.

Appendix B - Surveyor Training

Fish Ingestion Project - July 12 and 13, 2004

Project Overview

- *Sponsors: Department of Environmental Management (DEM), Department of Health (DOH), Brown University, and the Cambodian Society*
- *Purpose: to increase environmental and public awareness of the Southeast Asian community on the issue of mercury and PCB ingestion*

Eating Fish

- *Fish can be a healthy part of a balanced diet, but can also have mercury and PCBs*
- *Mercury is a metal that can exist in many forms*
- *Mercury enters ponds, lakes and rivers through pollution and then gets into the fish*
- *Mercury is commonly found in fresh water fish and a few types of saltwater fish*

(From: <http://www.healthri.org/environment/risk/fish.htm>, DEM)

Mercury in Fish

- *When a woman is pregnant, mercury can cross the placenta and influence the brain development of the unborn baby*
- *Mercury exposure can affect how a baby learns, moves and behaves*
- *High levels of mercury in the body can cause harm to an adult's kidney and brain*

(From: <http://www.healthri.org/environment/risk/fish.htm>, DEM)

PCBs

- *PCBs are composed of many chemicals*
- *PCBs are not made in the US anymore, but humans can still be exposed to them at work and in the environment*
- *PCBs are stored in the fat tissues of fish*

(From: <http://www.atsdr.cdc.gov/DT/pcb007.html>)

PCBs in Humans

- *Certain ethnic groups, sport anglers, the elderly, pregnant women, children, fetuses and nursing infants are more likely to be exposed to PCBs because they eat a lot of fish*
- *Studies show that exposure may lead to fertility dysfunction; brain and development issues in newborns and young children; and increased cancer risks*

(From: <http://www.atsdr.cdc.gov/DT/pcb007.html>)

Goals of the Project

- *To train you to conduct approximately 20 surveys each in your communities*
- *To use the surveys to find out about how much and what types of fish the Cambodian and Laotian communities eat*
- *To develop communication strategies for those populations to increase awareness about safe levels of fish consumption*

Project Phases

- *Phase 1: Training: July 12 and 13*
- *Phase 2: Conducting Surveys: throughout July*
- *Phase 3: Handling the Data: July – August*
- *Phase 4: Designing & Testing Communications Model: September - November*
- *Phase 5: Implementing Communications Campaign: December and on*

Social Research

- *Involves talking to people about how they think, feel and view the world*
- *Helps us understand more about why humans behave as they do, because people have certain pieces of knowledge not available in books*
- *Explores understandings, values, needs and desires*
- *Shows possibilities for behavior change*
- *Can help design programs*
- *Can aid in monitoring and evaluation of programs*

Security Considerations

- *We always want to make those answering the survey are protected from any connection with their answers*
- *Respect their privacy – an individual determines what she or he says to you*
- *Participants may omit answers to particular questions*
- *Participants may end survey at any time*
- *Individuals must never be publicly identified or associated with their individual responses*
- *Any promises made to respondents must be kept (i.e. providing them with a copy of the survey results)*
- *Keep completed surveys in a secure place*

Before You Begin the Survey

- *Inform respondents participation is voluntary, they can refuse to participate*
- *Explain that our survey will be anonymous - you will not find out their names and their answers will not be connected to them in any way*
- *Obtain informed consent – read statement and make sure they understand their rights to participation before you begin*

Conducting the Survey

- *Be prepared: be comfortable and confident with the protocol before you begin*
- *Ask entire question*
- *Use prompts as necessary*
- *Repeat questions when necessary*
- *After survey is complete, review it to make sure all writing is readable*

Non-verbal Cues

- *Use appropriate body language*
- *Keep expressions neutral with all responses (even ones that are out of the ordinary or surprising)*
- *Example of a neutrally-asked question:*

-(Q. 15) After you heard the warning, did you change your fish eating habits?

Be Careful About...

• *Influencing answers: be neutral in the way you read the question (don't stress any parts of the question more than others)*

-Example: (Q. 15) WHY didn't you change your eating habits?

● *Biasing responses: do not have a visible reaction to their answers (no matter what the answers are)*

- Example: A stern look when reading (Q. 19), i.e., How much do you believe this warning?

More Things to Be Careful About...

- *Giving your personal opinion: do not give it even if it is asked for*
- *Giving feedback: do not give positive or negative feedback on their answers*
- *Making other remarks about their answers*

When the Survey is Complete

- *Thank them very much for their time*
- *Ask if they have any questions*
- *Remind how to contact PI at Brown CES if they have any more questions at any time*

Other Protein Sources

Since you should eat just one or two meals per week of these fish and shellfish, here are some other sources of protein that are good for you and your baby:

- Meat (*beef, pork*)
- Poultry (*chicken, turkey, duck, quail*)
- Beans (*lentils, kidney beans, split peas, soybeans, bean sprouts, peapods, green beans*)
- Soy products (*tofu, soy milk, soybeans*)
- Nuts (*peanuts*)
- Eggs



Choosing Locally Caught Fish

If your family or friends like to catch fish in Rhode Island, and you eat the fish they catch, you need to know which fish are safe for you and your baby to eat. These fish are safe:

- Flounder, haddock, and most other saltwater fish caught in Narragansett Bay or the ocean (except shark, swordfish, bluefish, or striped bass).
- Clams, crabs, and other shellfish. Shellfish should be collected from approved areas. Remember to cook shellfish thoroughly before eating them.
- Trout from stocked waters (any other freshwater fish are not safe to eat).



Fish is Good

MERCURY IS BAD!

Advice for:

*Women Who Are Pregnant
or Who May Become Pregnant*

Nursing Mothers

Parents of Young Children

For more information, call the
Contaminants in Fish Hotline
at 222-4770

or visit [www.health.ri.gov/
environment/risk/fish.php](http://www.health.ri.gov/environment/risk/fish.php)
(information in English only)

Choose the Right Fish to Eat

You and your growing baby need protein. Fish is a good source of protein. However, some fish are not safe to eat. You need to know how to choose the right fish to eat. Read this brochure to find out how.

Fish is Good

- Fish is a good source of protein.
- Fish has many vitamins and minerals.
- Fish is low in fat.
- Fish can be part of a healthy diet. A healthy diet helps children grow and develop properly.

Mercury is Bad

- Mercury is a type of metal found in nature. It is used in thermometers, batteries, lamps, and other products. Sometimes mercury gets into ponds, lakes, rivers, soil, and air through pollution.
- When mercury pollutes the water, it can get into the fish that live there. If you eat fish with mercury, it can harm your baby when you are pregnant or breastfeeding.
- Babies born to mothers who have a lot of mercury in their bodies may develop more slowly and have problems learning. Young children can also be harmed by mercury.
- You can't taste, see, or smell mercury in fish. Mercury can't be cut away, cleaned, or cooked out of fish. The best way to avoid mercury is to know which fish to choose and how much to eat.

Some fish have high levels of mercury or other contaminants that aren't safe.

Do not eat:

- Shark
- Swordfish
- Bluefish
- Striped Bass
- Freshwater fish from Rhode Island ponds, lakes, or rivers

Mercury is Bad


Fish is Good

Other fish have lower levels of mercury and are safe to eat. Eat up to two meals per week of these fish and shellfish that are lower in mercury:

- Shrimp
- Scallops
- Salmon
- Pollock
- Catfish

Tuna is higher in mercury than the other fish on this list. If you eat tuna, choose "light" tuna, not "albacore" or "white" tuna. Eat only one meal per week of light tuna.



A photograph of a man smiling and holding a large, dark fish with a yellow stripe on its side. The background shows a body of water and greenery under a blue sky.

DO YOU EAT FISH
CAUGHT IN
Rhode Island?

Some local fish have high levels of mercury or other contaminants that are not safe. If you eat fish caught in Rhode Island, you need to know which fish are safe to eat. The information on this card will help you make safe choices.

Young children and women who are pregnant, nursing, or planning to have a baby should not eat shark, swordfish, bluefish, striped bass, or any freshwater fish from Rhode Island ponds, lakes, or rivers, except for trout from stocked waters. Mercury or other contaminants in these fish can cause growth or learning problems in babies and young children.

In general, you should vary the kind of fish you eat and where it comes from. Also, choose smaller fish to eat, as listed in the Department of Environmental Management's allowable size limit regulations.

Local Fish That Are Safe to Eat:

- Flounder, haddock, and most other saltwater fish caught in Narragansett Bay or the ocean are low in mercury and safe to eat.
- Clams, crabs, and other shellfish are low in mercury. Shellfish should be collected from approved areas. Remember to cook shellfish thoroughly before eating them.
- Trout from stocked waters are safe to eat. It is safe to eat one meal per week of most freshwater fish as long as the type of fish and place it was caught are safe. Read below for the types of fish and places that are not safe.

Do Not Eat These Fish More Than Once a Month:

Eel and black crappie from all ponds.
All fish from Tucker, Yawgoo, and Watchaug Ponds

Do Not Eat:

Bass, pike, or pickerel. They have high levels of mercury.

Except for trout, do not eat any fish from:

Lower Woonasquatucket River
Yawgoog Pond
Wincheck Pond
Meadowbrook Pond
Quidnick Reservoir

For more information call the
Contaminants in Fish Hotline
at 222-4770 or visit:

[www.health.ri.gov/environment/
risk/fish.php](http://www.health.ri.gov/environment/risk/fish.php)
(information in English only)

ເລືອກປາທີ່ຖືກຕ້ອງໃນການຮັບປະທານ

ທ່ານ ແລະ ບຸດຂອງທ່ານຕ້ອງການໂປຼຕິນ. ປາແມ່ນສິ່ງທີ່ດີສຸດໃນການສະໜອງໂປຼຕິນ. ແນວໃດກໍຕາມ, ປາບາງຊະນິດກໍເປັນອັນຕະລາຍໃນການຮັບປະທານ. ທ່ານຕ້ອງຮູ້ວ່າຄວນຈະ ເລືອກປາແນວໃດໃຫ້ຖືກຕ້ອງເພື່ອຮັບປະທານ. ກະລຸນາອ່ານເອກະສານແນະນຳເພື່ອທຳ ຄວາມເຂົ້າໃຈເພີ່ມເຕີມ.



ໂທສອບຖາມຂໍ້ມູນເພີ່ມເຕີມໄດ້ທີ່ສູນຄວບຄຸມປາເປັນພິດ
ໂທ: 222-4770
ຫລື ເຂົ້າເວັບໄຊ www.health.river.gov/environment/risk/fish.php
(ທຸກຂໍ້ມູນແມ່ນເປັນພາສາອັງກິດ).

ການເລືອກສະຖານທີ່ໃນການຫາປາ

ຖ້າຄອບຄົວ ຫລື ເພື່ອນຂອງທ່ານມັກການຫາປາຢູ່ໃນເກາະໂຣດ ແລະ ທ່ານຕ້ອງຮັບປະທານປາທີ່ພວກເຂົາຫາໄດ້, ທ່ານຕ້ອງຮູ້ວ່າປາຊະນິດໃດແມ່ນມີຄວາມປອດໄພຕໍ່ຕົວທ່ານ ແລະ ບຸດຂອງທ່ານ. ນີ້ແມ່ນປາທີ່ບໍ່ເປັນອັນຕະລາຍ:

- ປາລື່ນໝາ, ປາແຮດດ້ອກ ແລະ ປານ້ຳເຕັມອື່ນໆ ທີ່ຢູ່ໃນອ່າວນາຣາການແສດທ໌ ຫລື ມະ ຫາສະໝຸດ (ຍົກເວັ້ນປາສະຫລາມ, ປາສອດສ໌ຟິດສ໌, ປາບລູຟິດສ໌ ຫລື ປາສໂຕ້ ບາດສ໌).
- ຫອຍກາບ, ກະປູ, ແລະ ຈຳພວກສັດນ້ຳອື່ນໆມີເປືອກແຂງ ເຊິ່ງມີລະດັບສານບະຫລອດຕ່ຳ. ຈຳພວກສັດເປືອກແຂງຄວນໄດ້ຖືກຮັບຮອງຈາກພື້ນທີ່ຄວບຄຸມ, ໃຫ້ຈື່ວ່າໃນການເອົາສັດຈຳ ພວກນີ້ມາປຸງແຕ່ງເປັນອາຫານນັ້ນ ຄວນເຮັດໃຫ້ສຸກກ່ອນຮັບປະທານ.
- ປາເທຣົາທ໌ ທີ່ລ້ຽງໃນກະຊັງ (ປາໃນນ້ຳທຳມະຊາດແມ່ນບໍ່ມີຄວາມປອດໄພໃນການຮັບປະທານ)



ຮັກສາສຸຂະພາບແມ່ນພາກສ່ວນໜຶ່ງຂອງຄອບຄົວທ່ານ
ພະແນກສາທາລະນະສຸກ ເກາະໂຣດ

**ປາແມ່ນດີ.
ສານບາຫລອດແມ່ນອັນຕະລາຍ!**

ຄຳແນະນຳສຳລັບ:
ຜູ້ຍິງຖືພາ
ຜູ້ຍິງທີ່ກຽມຖືພາ
ເອື້ອຍລ້ຽງເດັກ
ພໍ່ແມ່ຂອງເດັກ



ປາແມ່ນດີ.

- ປາໃຫ້ທາດໂຢຼຕີນ
- ປາມີວິຕາມິນ ແລະ ທາດເກືອແຮ່
- ປາບໍ່ເຮັດໃຫ້ຕຸ້ຍ
- ປາແມ່ນສ່ວນປະກອບໜຶ່ງໃນການຄວບຄຸມອາຫານ. ການຄວບຄຸມອາຫານແມ່ນຊ່ວຍໃຫ້ ເດັກນ້ອຍຈະເລີນເຕີບໂຕ ແລະມີພັດທະນາການທີ່ເໝາະສົມ

ສານບາຫລອດແມ່ນອັນຕະລາຍ.

- ສານບາຫລອດແມ່ນທາດໂລຫະຊະນິດໜຶ່ງທີ່ພົບໃນທຳມະຊາດ, ມັນໄດ້ຖືກນຳໃຊ້ໃນການເຮັດເຄື່ອງວັດແທກອຸນນະພູມ, ໝໍ້ໄຟ, ດອກໄຟ ແລະ ຜະລິດຕະພັນອື່ນໆ. ບາງເທື່ອສານບາຫລອດໄດ້ປົນຢູ່ໃນໝອງບຶງ, ທະເລສາບ, ແມ່ນ້ຳ, ຫ້ວຍຮ່ອງ ແລະ ອາກາດ ເຊິ່ງກໍ່ໃຫ້ເກີດມົນລະພິດ.
- ເມື່ອສານບາຫລອດໄດ້ກໍ່ໃຫ້ເກີດມົນລະພິດຢູ່ໃນນ້ຳແລ້ວ, ມັນສາມາດເຂົ້າໄປໃນໂຕປາທີ່ອາໄສຢູ່ໃນນ້ຳນັ້ນ. ຖ້າຫາກທ່ານຮັບປະທານປາທີ່ມີສານບາຫລອດ, ມັນສາມາດກໍ່ຜົນຮ້າຍຕໍ່ບຸດ ຂອງທ່ານທີ່ຢູ່ໃນຄົນມານດາ ຫລື ເວລາທ່ານໃຫ້ນົມລູກ.
- ເດັກທີ່ເກີດມາໃນພາວະທີ່ແມ່ມີສານບາຫລອດໃນຮ່າງກາຍຫລາຍ ແມ່ນຈະເຮັດໃຫ້ຮ່າງກາຍຂອງເດັກມີພັດທະນາການຊ້າ ແລະ ມີບັນຫາໃນການຮຽນຮູ້. ພ້ອມນັ້ນ, ສານບາຫລອດຍັງເປັນ ອັນຕະລາຍຕໍ່ເດັກນ້ອຍເຊຣນດຽວກັນ.
- ທ່ານບໍ່ສາມາດຮັບຮູ້ໄດ້ລົດຊາດ, ສີ, ກິ່ນ ຂອງສານບາຫລອດຢູ່ໃນປາ. ສານບາຫລອດບໍ່ສາມາດຕັດອອກ, ທຳຄວາມສະອາດ ຫລື ຕົ້ມມັນອອກຈາກປາໄດ້. ວິທີຫລີກລ້ຽງສານບາຫລອດທີ່ດີທີ່ສຸດ ແມ່ນຕ້ອງຮູ້ຈັກເລືອກຊະນິດຂອງປາ ແລະ ຄວນຮັບປະທານໃນປະລິມານເທົ່າໃດ.

ປາບາງຊະນິດມີລະດັບສານບາຫລອດສູງ ຫລື ສານພິດອື່ນໆນັ້ນ ແມ່ນເປັນອັນ ຕະລາຍ.

ຫ້າມຮັບປະທານ:

- ປາສະຫລາມ
- ປາສອດສ໌ພິດສ໌
- ປາບລູພິດສ໌
- ປາສໂຕຼດ໌ ບາສ໌
- ປານ້ຳຈືດທີ່ມາຈາກໝອງບຶງ, ທະເລສາບ ຫລື ແມ່ນ້ຳ ທີ່ຢູ່ໃນເກາະໂຣດ໌

ສານບາຫລອດແມ່ນເປັນອັນຕະລາຍ.

ປາແມ່ນດີ.

ໃນການຮັບປະທານປາຊະນິດອື່ນແມ່ນມີລະດັບສານບາຫລອດຕ່ຳ ແມ່ນບໍ່ເປັນອັນຕະ ລາຍ. ຄວນຮັບປະທານຈຳພວກປາ ແລະ ສັດເປືອກແຂງ ທີ່ມີລະດັບສານບາຫລອດຕ່ຳສອງ ຄາບຕໍ່ອາທິດ:

- ກຸ້ງ
- ຫອຍແຄງ
- ປາຊານມອນ
- ປາໂພລັອກ
- ປາແຄັດພິດສ໌

ປາທຸນາແມ່ນມີລະດັບສານບາຫລອດສູງກວ່າປາຊະນິດອື່ນທີ່ຢູ່ໃນລາຍການ. ຖ້າຫາກ ທ່ານຮັບປະທານປາທຸນາ, ຈຶ່ງເລືອກປາທຸນາທີ່ມີສີເຫລືອງອ່ອນ, ບໍ່ຄວນເລືອກປາທຸນາທີ່ມີ ສີປອນນ້ຳເງິນ ຫລື ມີສີຂາວ. ຄວນຮັບປະທານປາທຸນາທີ່ມີສີເຫລືອງອ່ອນໜຶ່ງຄາບຕໍ່ອາທິດ

ພຽງແຕ່ທ່ານເລີ່ມຮັບປະທານປາ ແລະ ສັດເປືອກແຂງເຫລົ່ານີ້ ໜຶ່ງ ຫລື ສອງຄາບ ຕໍ່ອາທິດ, ນີ້ແມ່ນແຫລ່ງໂຢຼຕີນທີ່ດີຕໍ່ທ່ານ ແລະ ບຸດຂອງທ່ານ:

- ຊີ້ນ (ຊີ້ນງົວ, ຊີ້ນໝູ)
- ສັດປີກ (ເປັດ, ໄກ່, ໄກ່ງວງ, ນົກກະທາ)
- ພືດປະເພດຖົ່ວ
- ຜະລິດຕະພັນຖົ່ວເຫລືອງ (ເຕົາຮູ້, ນ້ຳ ເຕົາຮູ້, ນົມຖົ່ວເຫືອງ)
- ພືດຊະນິດທີ່ກິນເມັດ (ໝາກຖົ່ວດົນ)
- ໂຂ່





ທ່ານຮັບປະທານປາທີ່ ຫາມາຈາກເກາະໂຮດ?

ບາງທ້ອງຖິ່ນປາມີລະດັບສານບະຫລອດສູງ ຫລື
ສານພິດອື່ນໆ ເຊິ່ງນັ້ນແມ່ນບໍ່ມີຄວາມປອດ ໄພ.
ຖ້າທ່ານຮັບປະທານປາທີ່ຫາມາຈາກເກາະໂຮດ,
ທ່ານຕ້ອງຖືປະເພດປາທີ່ບໍ່ເປັນອັນຕະລາຍເມື່ອ
ທ່ານໄດ້ຮັບປະທານ. ຂໍ້ມູນຂ່າວສານດຖງຸ່ໄປນີ້
ສາມາດຊ່ວຍໃຫ້ທ່ານມີທາງເລືອກທີ່ປອດໄພ.

ເດັກນ້ອຍ, ຜູ້ຍິງຖືພາ, ເອື້ອຍລ້ຽງເດັກ ຫລື
ຜູ້ທີ່ວາງແຜນຈະມີລູກແມ່ນບໍ່ຄວນຈະຮັບປະທາ
ນ ປາສະຫລາມ, ປາສອດສ໌ຟິດສ໌, ປາບລູຟິດສ໌,
ປາສໄຕ ບາສ໌ ຫລື ປານຈີດບາງຊະນິດ
ທີ່ຫາມາຈາກ ບຶງ, ທະເລສາບ ຫລື ຕາມລຳແມ່ນຈີ່
ຕ່າງໆຢູ່ເກາະໂຮດ, ຍົກເວັ້ນປາເທຣາທີ່ລ້ຽງໃນກະ
ຊັງ. ສານ ບະຫລອດ ຫລື ສານພິດອື່ນໆທີ່ຢູ່ໃນປາ
ເຫລົ່ານີ້ ສາມາດກໍ່ໃຫ້ເກີດບັນຫາກ່ຽວກັບການຄຸ້ນ
ຖູ່ຂອງເດັກ ທານິກ ແລະ ເດັກນ້ອຍ.

ໂດຍທົ່ວໄປແລ້ວ, ທ່ານຄວນຈະປ່ຽນຊະນິດປາ
ທີ່ຮັບປະທານ ແລະ ຄວນຖືທີ່ມາຂອງມັນພ້ອມ.
ສະນັ້ນ, ທ່ານຄວນເລືອກປາທີ່ມີຂະໜາດນ້ອຍເພື່
ອຮັບປະທານ, ຄິດຖງຕາມລາຍການທີ່ພະແນກບໍ
ລິ ຫານສິ່ງແວດລ້ອມອະນຸຍາດໃຫ້.



ແຫລ່ງທີ່ມາຂອງປາທີ່ມີຄວາມປອດໄພ ໃນການຮັບປະທານ

- ປາລື່ນໝາ, ປາແຮັດດ້ອກ, ແລະ ຊະນິດປານ້ຳເຕັມ ທັງໝົດທີ່ຫາມາຈາກອ່າວນາຣາການແສດ ຫລືມະຫາສະໝຸດທີ່ມີລະດັບສານບະຫລອດຕ່ຳ ແລະ ມີຄວາມປອດໄພ ໃນການຮັບປະທານ.
- ຫອຍກາບ, ກະປູ, ແລະ ຈຳພວກສັດນ້ຳອື່ນໆມີເປືອກແຂງ ເຊິ່ງມີລະດັບສານບະຫລອດຕ່ຳ. ຈຳພວກສັດເປືອກແຂງຄວນໄດ້ຖືກຮັບຖອນຈາກພື້ນທີ່ຄວບຄຸມ, ໃຫ້ຈື່ວ່າໃນການເອົາສັດຈຳພວກນີ້ມາ ປຸງແຕ່ງເປັນອາຫານນັ້ນຄວນເຮັດໃຫ້ສຸກກ່ອນຮັບປະທານ.
- ປາເທຣີາທ໌ ທີ່ລ້ຽງໃນກະຊັງແມ່ນມີຄວາມປອດໄພໃນການຮັບປະທານ. ມັນຈະມີຄວາມປອດໄພ ຖ້າຖືກຮັບປະທານປານ້ຳຈືດທຸກຊະນິດອາທິດລະເທື່ອ ແລະ ປາເທຣີາທ໌ນັ້ນຄວນນຳມາຈາກສະຖານທີ່ ທີ່ມີຄວາມປອດໄພ. ກະລຸນາອ່ານຂໍ້ຄວາມລຸ່ມນີ້ທີ່ບອກຊະນິດປາ ແລະ ແຫລ່ງທີ່ມາຂອງປາ ທີ່ເປັນອັນຕະລາຍ.

ຫ້າມຮັບປະທານຊະນິດປາລຸ່ມນີ້ເກີນ ກວ່າໜຶ່ງຄັ້ງຕໍ່ເດືອນ:

- ອ່ຽນ ແລະ ຄຣາບພາຍດຳທີ່ຫາມາຈາກທຸກໆບ່າງ.
- ປາທຸກຊະນິດທີ່ຫາມາຈາກບ່າງທຣັກເກີ້, ບ່າງຢາວກູງ ແລະ ບ່າງວິອດຈອດ.

ຫ້າມຮັບປະທານ:

- ປາບັດສ໌, ປາໄພກ໌ ຫລື ປາພິກຄາຣິວ. ພວກມັນມີລະດັບສານບະຫລອດສູງ.
- ຍົກເວັ້ນປາເທຣີາທ໌, ຫ້າມຮັບປະທານປາທຸກຊະນິດທີ່ຫາມາຈາກ:
 - ຕອນລຸ່ມຂອງແມ່ນ້ຳວູນາສະຄວາຕັກກິດ
 - ບ່າງຢາວກູງ
 - ບ່າງວິນເຊັກ
 - ບ່າງມິດາວບຣຸກ
 - ອ່າງເກັບນ້ຳຄວິດນິກ

ໂທສອບຖາມຂໍ້ມູນເພີ່ມເຕີມໄດ້ທີ່ສູນຄວບຄຸມປາເປັນພິດ
ໂທ 222-4770 ເຂົ້າເວັບໄຊ www.health.rh.gov/environment/risk/fish.php
(ທຸກຂໍ້ມູນແມ່ນເປັນພາສາອັງກິດ).



ជ្រើសយកត្រី ឲ្យបានត្រឹមត្រូវសំរាប់បរិភោគ

រូបអ្នក និងទារកកំពុងលូតលាស់របស់អ្នកត្រូវការជាតិ ប្រូតេអ៊ីន ។ ត្រីជាប្រភពដ៏ល្អមួយសំរាប់ជាតិប្រូតេអ៊ីន ។ ក៏ប៉ុន្តែត្រីខ្លះមិនមានសុវត្ថិភាពសំរាប់បរិភោគទេ ។ អ្នក ត្រូវការដឹងនូវរបៀបជ្រើសត្រី ឲ្យបានត្រឹមត្រូវសំរាប់ បរិភោគ ។ សូមអានខិតប័ណ្ណនេះដើម្បីឲ្យដឹងនូវរបៀប ជ្រើសរើស ។



ជ្រើសយកត្រីចាប់បានក្នុងស្រុក

បើសិនជាគ្រួសារអ្នក ឬមិត្តភក្តិចូលចិត្តចាប់ត្រីនៅក្នុងរដ្ឋ Rhode Island ហើយអ្នកបរិភោគត្រីដែលគេចាប់បាន នោះ អ្នកត្រូវការចង់ដឹងថាត្រីណាមួយដែលមានសុវត្ថិភាព សំរាប់បរិភោគ ។ ត្រីទាំងឡាយខាងក្រោមនេះគឺមាន សុវត្ថិភាព:

- ត្រីអណ្តាតឆ្កែ ត្រី haddock និងត្រីទឹកប្រៃភាគច្រើន ដែលចាប់នៅក្នុងឆ្នេរ Narragansett Bay ឬសមុទ្រ (លើកលែងតែ ត្រីឆ្ងាម ត្រី swordfish ត្រី bluefish, ឬត្រី striped bass) ។
- លៀស ក្តាម និងសត្វមានសំបកដីទៀត ។ សត្វមានសំបកត្រូវតែចាប់ពីកន្លែងដែលមានការយល់ ព្រម ។ ត្រូវចាំថា អ្នកត្រូវចម្អិនឲ្យបានត្រឹមត្រូវមុន ពិសារ ។
- ត្រី Trout ចាប់ពីទឹកស្អុកទុក (ត្រីពីទឹកសាបណាមួយ មិនមានសុវត្ថិភាពសំរាប់បរិភោគទេ)។



ធ្វើឲ្យសុខភាពល្អជាផ្នែកមួយរបស់គ្រួសារអ្នក ក្រសួងសុខាភិបាលរដ្ឋ RHODE ISLAND

ដើម្បីចង់ដឹងព័ត៌មានថែមទៀតសូមទូរស័ព្ទមកបណ្តាញ ផ្នែកជាតិកំណរពុលលេខ 222-4770 ឬពិនិត្យបណ្តាញអ៊ិនធឺណិត: www.health.ri.gov/environment/risk/fish.php (ព័ត៌មានជាភាសាអង់គ្លេសតែប៉ុណ្ណោះ)

៧៧ ត្រីគីលូ អ្វី បារតីគឺអាត្រក់!

ដំបូន្មានសំរាប់៖
ស្ត្រីដែលមានផ្ទៃពោះ
ឬដែលប្រហែលអាចមានផ្ទៃពោះ
ម្តាយបំបៅកូនដោយទឹកដោះ
មាតាបិតានៃកូនតូចៗ



ត្រីគីលូ

- ត្រីជាប្រភពល្អនៃជាតិប្រូតេអ៊ីន ។
- ត្រីមានជាតិវីតាមីន និងជាតិខនិជ្ជច្រើន ។
- ត្រីមានជាតិខ្លាញ់តិច ។
- ត្រីអាចជាផ្នែកមួយនៃចំណីអាហារដែលមានសុខភាព ។ ចំណីអាហារមានសុខភាពជួយកុមារឱ្យធំលូតលាស់ និងអភិវឌ្ឍន៍ត្រីមត្រូវ ។

បារតីអាក្រក់

- បារតីជាប្រភេទនៃជាតិដែកដែលរកឃើញមាននៅក្នុងធម្មជាតិ ។ ជាតិបារតីនេះមានប្រើនៅក្នុងឧបករណ៍ស៊ីតុណ្ហមាត្រ ថ្ម អំពូលភ្លើង និងផលិតផលដទៃទៀត។ ជួនកាលជាតិបារតីចូលទៅក្នុងបឹង ទន្លេ ស្ទឹង ដី និងខ្យល់តាមរយៈកំណរក្រខ្វក់ ។
- កាលណាជាតិបារតីកកក្រខ្វក់ក្នុងទឹក វាអាចចូលទៅក្នុងត្រីដែលរស់នៅទីនោះ ។ បើសិនជាអ្នកបរិភោគត្រីដែលមានជាតិបារតី វាអាចធ្វើឱ្យមានគ្រោះថ្នាក់ដល់ទារករបស់អ្នកកាលណាអ្នកមានផ្ទៃពោះ ឬបំបៅទារកជាមួយទឹកដោះម្តាយ ។
- ទារកដែលកើតពីម្តាយដែលមានជាតិបារតីច្រើននៅក្នុងខ្លួន ទារកនោះអាចធំលូតលាស់យឺត ហើយមានបញ្ហាក្នុងការរៀនសូត្រ ។ កុមារតូចៗអាចមានគ្រោះថ្នាក់ដោយជាតិបារតីដែរ ។
- អ្នកមិនអាចភ្នាក់ មើល ឬហិតក្លិនជាតិបារតីនៅក្នុងត្រី ។ ជាតិបារតីមិនអាចកាត់ចេញ សំអាត ឬចម្អិនឱ្យឆ្អិនចេញពីត្រីបានឡើយ ។ មធ្យោបាយប្រសើរក្នុងការជៀសវាងជាតិបារតីឱ្យដឹងថាត្រីណាត្រូវជៀសយក ហើយត្រូវបរិភោគកំរិតណា ។

ត្រីខ្លះមានជាតិបារតីកំរិតខ្ពស់ ឬជាតិកំណរពុលខ្លះដែលគ្មានសុវត្ថិភាពសំរាប់បរិភោគ ។

កុំបរិភោគ:

- ត្រីឆ្មារម
- ត្រី Swordfish
- ត្រី Bluefish
- ត្រី Striped Bass
- ត្រីទឹកសាបមកពីបឹង ទន្លេ ឬស្ទឹងនៅក្នុងរដ្ឋ Rhode Island ។

ជាតិបារតីអាក្រក់

ត្រីគីលូ

ត្រីផ្សេងៗទៀតមានកំរិតជាតិបារតីតិច ហើយមានសុវត្ថិភាពសំរាប់បរិភោគ ។ បរិភោគអាហារពីរដងក្នុងមួយអាទិត្យនៃត្រីទាំងនេះដែលមានជាតិបារតីតិច:

- កំពឹស
- Scallops [លៀសសមុទ្រធំៗ]
- ត្រីសុងម៉ុង
- ត្រី Pollock
- ត្រីអណ្តែង

ត្រី Tuna មានជាតិបារតីខ្ពស់ជាងត្រីផ្សេងៗទៀតនៅក្នុងបញ្ជីនេះ ។ បើសិនជាអ្នកបរិភោគត្រី tuna សូមជ្រើសយកប្រភេទត្រី tuna “light[ស្រាល]” កុំជ្រើសយក tuna “albacore” ឬត្រី tuna “white[ស]” ។ បរិភោគត្រី tuna ស្រាលនេះតែម្តងបានហើយក្នុងមួយអាទិត្យ ។

ដោយអ្នកគួរតែបរិភោគត្រីទាំងនេះ ឬសត្វមានសំបកតែម្តង ឬពីរដងក្នុងមួយអាទិត្យ មានប្រភពប្រភេទមួយចំនួនទៀតដែលល្អសំរាប់អ្នក និងទារករបស់អ្នក:

- សាច់ (សាច់គោ សាច់ជ្រូក)
- សាច់សុបក្សី ដូចជា (មាន់ មាន់បារាំង ទា ក្រូច)
- សណ្តែក (សណ្តែកឡុងទីល សណ្តែកអង្កុយ សណ្តែកបារាំង សណ្តែកសៀង សណ្តែកបណ្ណះ សណ្តែកបារាំងគួរ សណ្តែកអង្កុយខ្មៅ)
- ផលិតផលទឹកសណ្តែក (តៅហ្វី ទឹកដោះសណ្តែក ទឹកសណ្តែក)
- គ្រាប់ណីត (សណ្តែកដី)
- ស៊ុត





តើអ្នកបរិភោគ
ត្រីចាប់បាននៅ
ក្នុងរដ្ឋ *Rhode Island*?

ត្រីនៅក្នុងស្រុកខ្លះមានកំរិតជាតិបារតខ្ពស់ ឬជាតិកំណរពុល ផ្សេងៗទៀតដែលគ្មានសុវត្ថិភាព ។ បើសិនជាអ្នកបរិភោគ ត្រីចាប់បាននៅក្នុងរដ្ឋ *Rhode Island* អ្នកត្រូវតែដឹង ថាតើត្រីប្រភេទណាមួយដែលមានសុវត្ថិភាពសំរាប់បរិភោគ ។ ព័ត៌មាននៅក្នុងប័ណ្ណនេះនឹងជួយអ្នកឱ្យធ្វើសេចក្តីសំរេច ចិត្តដ៏មានសុវត្ថិភាព ។

កុមារតូចៗ និងស្ត្រីដែលមានផ្ទៃពោះ បំបៅទារក ឬមាន គម្រោងនឹងមានទារកមិនគួរបរិភោគត្រីឆ្ងាយ ត្រី *swordfish* ត្រី *bluefish* ត្រី *striped bass* ឬត្រីទឹកសាបដែល មកពីបឹង ទន្លេ ឬស្ទឹងនៅ *Rhode Island* លើកលែង តែត្រី *trout* នៅទឹកស្អុកទុក ។ ជាតិបារត ឬជាតិកំណរផ្សេងៗទៀតដែលមាននៅក្នុងត្រីអាច បណ្តាលឱ្យមានបញ្ហាដល់ការលូតលាស់ ឬការរៀនសូត្រនៅ ក្នុងទារក និងកុមារតូចៗ ។

ជាទូទៅ អ្នកត្រូវផ្លាស់ប្តូរប្រភេទត្រីដែលអ្នកបរិភោគ ហើយនឹង ពីទឹកនៃឯកត្រីនោះមក ។ ម្យ៉ាងទៀត ជ្រើសយកត្រីតូចៗ សំរាប់បរិភោគ ដូចមានរាយនៅក្នុងបញ្ជីនៃបញ្ញត្តិអំពីកំរិត ទំហំត្រីដែលអាចបរិភោគបានរបស់ក្រសួងចាត់ចែងផ្នែកបរិស្ថាន ។



ត្រីក្នុងស្រុកដែលមានសុវត្ថិភាព សំរាប់បរិភោគ:

- ត្រីអណ្តាតផ្លែ ត្រី haddock, និងត្រីទឹកសាបស្ទើរតែគ្រប់ប្រភេទដែលចាប់បាននៅក្នុងឆ្នេរ Narragansett Bay ឬតាមសមុទ្រគឺមានជាតិបារតតិច ហើយមានសុវត្ថិភាពសំរាប់បរិភោគ ។
- លៀស ក្តាម និង សត្វមានសំបក គឺមានជាតិបារតទាប ។ សត្វមានសំបកត្រូវតែយកតែពីកន្លែងដែលគេអនុញ្ញាត ។ ត្រូវចាំថា ត្រូវចំអិនសត្វមានសំបកទាំងនោះឱ្យឆ្អិនត្រឹមត្រូវមុនបរិភោគ ។
- ត្រី Trout យកពីទឹកស្អុកទុកគឺមានសុវត្ថិភាពសំរាប់បរិភោគ ។

វាមានសុវត្ថិភាពក្នុងការបរិភោគអាហារម្តងក្នុងមួយអាទិត្យនៃត្រីទឹកសាបទាំងអស់ដ៏រាបណាប្រភេទនៃត្រីចាប់បាននៅកន្លែងមានសុវត្ថិភាព ។ សូមអានខាងក្រោមអំពីប្រភេទនៃត្រី និងទីកន្លែងដែលគ្មានសុវត្ថិភាព ។

កុំបរិភោគត្រីទាំងនេះលើសពីម្តងក្នុងមួយខែ:

- អន្ទង់ និងត្រី crappie ខ្មៅមកពីបឹងទាំងអស់ ។
- គ្រប់ត្រីទាំងអស់មកពីបឹង Tucker, Yawgoo, និងបឹង Watchaug ។

កុំបរិភោគ:

- ត្រី Bass, ត្រី pike, ឬត្រី pickerel ។ ពួកសត្វត្រីទាំងនោះមានកំរិតជាតិបារតខ្ពស់ ។
- លើកលែងតែត្រី trout សូមកុំបរិភោគត្រីដែលមកពី:
 - ទន្លេ Lower Woonasquatucket
 - បឹង Yawgoog
 - បឹង Wincheck
 - បឹង Meadowbrook
 - អាងទប់ទឹក Quidnick Reservoir

ដើម្បីចង់ដឹងព័ត៌មានថែមទៀតសូមទូរស័ព្ទមកបណ្តាញផ្នែកជាតិកំណរពុលលេខ 222-4770 ឬពិនិត្យបណ្តាញអ៊ិនធឺណិត: www.health.ri.gov/environment/risk/fish.php (ព័ត៌មានជាភាសាអង់គ្លេសតែប៉ុណ្ណោះ)

Chọn Đúng Loại Cá Để Ăn

Bạn và đứa trẻ đang lớn của bạn rất cần các loại protein. Cá là một nguồn cung cấp protein rất tốt. Tuy nhiên, có một vài loại cá không an toàn khi ăn. Bạn cần phải biết cách chọn đúng loại cá để ăn. Hãy đọc tờ giới thiệu này để tìm hiểu cách thực hiện.



Để biết thêm thông tin, hãy gọi Đường Dây Nóng Các Chất Gây Ô Nhiễm Trong Cá theo số 222-4770 hoặc ghé thăm trang web: www.health.ri.gov/environment/risk/fish.php (chỉ có thông tin bằng Tiếng Anh)

Chọn Loại Cá Đánh Bắt Được Tại Địa Phương

Nếu gia đình hoặc bạn bè của bạn thích đi bắt cá ở Rhode Island, và bạn ăn các loại cá họ bắt được, bạn cần phải biết ăn loại cá nào là an toàn cho bạn và con của bạn. Các loại cá an toàn là:

- Cá bơn (Flounder), cá tuyết (haddock), và hầu hết các loại cá nước mặn khác đánh bắt ở Vịnh Narragansett hoặc ở biển (ngoại trừ cá mập (shark), cá kiếm (swordfish), cá bluefish, hoặc cá vược sọc dưa (stripe bass)).
- Các loại trai, sò, cua và động vật có vỏ khác. Các động vật có vỏ phải được đánh bắt từ những khu vực đã được phê duyệt. Hãy nhớ nấu kỹ các loại động vật có vỏ trước khi ăn
- Cá hồi (trout) được nuôi tại các vùng nước (bất cứ loại cá nước ngọt nào đều không an toàn để ăn)



HÃY GIỮ SỨC KHỎE LÀ
MỘT PHẦN CỦA GIA ĐÌNH BẠN

SỞ Y TẾ RHODE ISLAND

Cá Rất Hữu Ích THỦY NGÂN LẠI KHÔNG!

Lời khuyên dành cho:

Các Phụ Nữ Đang Mang Thai

*or Những Người
Có Thể Mang Thai*

Các Bà Mẹ Chăm Sóc

Các Bậc Cha Mẹ Các Trẻ Nhỏ

Cá Rất Hữu Ích

- Cá là nguồn thực phẩm giàu chất protein.
- Cá có chứa nhiều loại vitamin và khoáng chất.
- Cá có hàm lượng chất béo thấp.
- Cá có thể là một phần của chế độ ăn kiêng đảm bảo sức khỏe. Chế độ ăn kiêng đảo bảo sức khỏe giúp cho các trẻ em tăng trưởng và phát triển phù hợp.

Thủy Ngân Rất Có Hại

- Thủy ngân là một loại kim loại có trong tự nhiên. Nó được sử dụng trong các nhiệt kế, pin, đèn và các sản phẩm khác. Đôi lúc thủy ngân lọt vào trong các ao hồ, sông suối, đất và không khí do các tình trạng ô nhiễm.
- Khi thủy ngân gây ô nhiễm nguồn nước, nó có thể nhiễm vào các loài cá sống tại đó. Nếu bạn ăn các loại cá có nhiễm thủy ngân, nó có thể gây nguy hiểm đến con bạn khi bạn mang thai hoặc cho con bú sữa mẹ.
- Các bé sinh ra bởi những bà mẹ có hàm lượng thủy ngân trong cơ thể nhiều có thể sẽ chậm phát triển hơn và gặp các vấn đề về khả năng nhận thức. Những trẻ nhỏ cũng có thể bị ảnh hưởng bởi thủy ngân.
- Bạn không thể nếm thử, nhìn thấy hoặc ngửi thấy thủy ngân trong cá. Thủy ngân cũng không thể bị tách bỏ riêng, lau bỏ hoặc đun nấu tách ra khỏi cá. Cách tốt nhất để tránh thủy ngân là biết rõ loại cá nào để chọn và sử dụng bao nhiêu là vừa.

Một số loại cá có hàm lượng thủy ngân hoặc các chất gây ô nhiễm khác rất cao và không an toàn.

Không được ăn:

- Cá mập (shark)
- Cá kiếm (swordfish)
- Cá Bluefish
- Cá Vược Vàng (Striped Bass)
- Cá nước ngọt từ các ao, hồ hoặc sông suối Rohde Island

Thủy Ngân Rất Có Hại Cá Lại Rất Hữu Ích

Một số loại cá khác có hàm lượng thủy ngân thấp hơn và có thể sử dụng an toàn. Có thể ăn lên đến hai bữa mỗi tuần có các loại cá và động vật có vỏ với hàm lượng thủy ngân thấp hơn như:

- Tôm
- Sò (điệp)
- Cá hồi
- Cá minh thái (Pollack)
- Cá trê (catfish)

Cá ngừ có hàm lượng thủy ngân cao hơn các loại cá khác trong danh sách này. Nếu bạn ăn cá ngừ, hãy chọn cá ngừ loại "light tuna", không nên chọn cá ngừ loại "albacore tuna" hoặc "white tuna". Hãy ăn mỗi tuần chỉ một bữa có cá ngừ loại "light tuna".

Do bạn chỉ nên ăn một hoặc hai bữa mỗi tuần với các loại cá và động vật có vỏ này, sau đây là một vài nguồn cung cấp protein rất tốt cho bạn và con bạn:

- Thịt (bò, heo)
- Thịt gia cầm (gà, gà tây, vịt, chim cút)
- Các loại đậu (đậu lăng, đậu tây, đậu khô tách đôi, đậu nành, giá, đậu xanh)
- Các sản phẩm từ đậu tương (đậu hũ, sữa đậu nành, đậu nành)
- Các loại quả hạch (đậu phộng)
- Các loại trứng





BẠN CÓ ĐƯỢC ĂN CÁ ĐÁNH BẮT TẠI *Rhode Island?*



Một vài loài cá ở địa phương có hàm lượng thủy ngân hoặc các chất gây ô nhiễm khác không an toàn rất cao. Nếu bạn ăn các loại cá đánh bắt được tại Rhode Island, bạn cần phải biết loài cá nào là an toàn để ăn. Các thông tin trên tờ giới thiệu này sẽ giúp bạn có sự lựa chọn an toàn.

Những trẻ nhỏ và phụ nữ đang mang thai, được chăm sóc hoặc dự định có em bé không nên ăn các loại cá như cá mập (shark), cá kiếm (swordfish), cá bluefish, cá vược sọc dưa (striped bass), hoặc bất cứ loài cá nước ngọt nào khác từ các ao, hồ hoặc sông suối của Rhode Island, ngoại trừ loại cá hồi (trout) được nuôi tại các vùng nước. Thủy ngân hoặc các chất gây ô nhiễm khác trong các loại cá này có thể gây ra các vấn đề về tăng trưởng và nhận thức đối với các em bé và trẻ em.

Nói chung, bạn nên thay đổi về loại cá bạn ăn cũng như nguồn gốc của chúng. Bên cạnh đó, hãy chọn những loài cá nhỏ hơn để ăn, theo như các quy định giới hạn về kích cỡ cho phép được liệt kê tại Phòng Quản Lý Môi Trường.



Loại Cá Ở Địa Phương An Toàn Để Ăn:

- Cá bơn (flounder), cá tuyết (haddock) và phần lớn các loại cá nước mặn khác đánh bắt được tại Vịnh Narragansett hoặc trên biển đều có hàm lượng thủy ngân thấp và an toàn để sử dụng.
- Các thứ như con trai (clam), cua (crab) và các loại động vật có vỏ khác đều có hàm lượng thủy ngân thấp. Các loại động vật có vỏ này cần phải được đánh bắt từ những khu vực đã được phê duyệt. Hãy nhớ nấu kỹ các loại động vật có vỏ này trước khi dùng.
- Loại cá hồi được nuôi trong các vùng nước cũng an toàn khi ăn.

Vẫn an toàn khi ăn một bữa trong tuần với hầu hết các loại cá nước ngọt miễn là loại cá và nơi đánh bắt chúng là an toàn. Hãy đọc kỹ các loại cá và các địa điểm không an toàn dưới đây.

Không Ăn Các Loại Cá Này Nhiều Hơn Một Lần Mỗi Tháng:

- Lươn (eel) và cá crappie đen ở tất cả các ao hồ.
- Tất cả các loại cá từ Tucker, Yawgoo, và các Ao Hồ vùng Watchaug.

Không Được Ăn:

- Cá vược (bass), cá chó (pike) hoặc cá chó đen (pickerel). Chúng có mang hàm lượng thủy ngân cao.
- Ngoại trừ cá hồi, không được ăn bất cứ loại cá nào từ:
 - Hạ Lưu Sông Woonasquatucket
 - Ao Hồ Yawgoog
 - Ao Hồ Wincheck
 - Ao Hồ Meadowbrook
 - Hồ Chứa Quidnick

Để biết thêm chi tiết, vui lòng gọi Đường Dây Nóng Các Chất Gây Ô Nhiễm Trong Cá theo số 222-4770 hoặc ghé thăm trang web:
www.health.ri.gov/environment/risk/fish.php
(chỉ có thông tin bằng tiếng Anh)