

# Fishing For A Healthy Diet

## **Target Audience:**

Adults

## **Topic Areas:**

Protein Foods

*The participants will:*

- Eat more fish.
- Know the health benefits of fish
- Learn what to know about buying fish
- Learn new ways to cook fish

## Audience Alert

In activity 3/4 canned salmon is used to make the salmon dip. Check with participants before the lesson to see if anyone is allergic to fish. Based on the type of allergy you may have to skip making and tasting the salmon dip or limit who comes in contact with the canned salmon.

# Fishing For A Healthy Diet

## Lesson Creators:

Diana Cangemi, Kelly M. Ryan, Nikki Hallisey, Courtney Lee, Samantha Finnegan, Amna Rahmat, Andrea S. Smith, Judy Klavens-Giunta, Debra Palmer

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## Purpose:

The purpose of this lesson is to encourage participants to eat at least 8 oz of fish a week.

## What The Nutrition Educator Needs To Know So That Participants' Questions Can Be Answered:

The current Dietary Guidelines tell people to eat at least 8 ounces of fish a week. You can do that by eating 8 ounces in one meal or at least 4 ounces of fish in two meals.<sup>1</sup> Fish is very good for you and can be part of a healthy diet. Fish is high in protein, vitamins, minerals and healthy poly-unsaturated fat.<sup>2</sup> Eating unsaturated fat instead of saturated fat may lower your total cholesterol.<sup>3</sup>

### Protein

Fish is part of the Protein Foods Group. The foods in this group, like fish and seafood, are high in protein. Your body needs protein to build strong muscles. Fish is a great source of protein. Eating 8 ounces of fish each week can add variety to your diet and also vitamins, minerals and heart healthy fat.

### Vitamins and Minerals

Fish gives us B vitamins, vitamin E, vitamin A, iron, zinc, and magnesium.<sup>4</sup> B vitamins help our body use energy and keep our nerves working right. Vitamin E is an anti-oxidant which

we need to help our bodies work well and keep us healthy. Iron helps our blood carry oxygen to all parts of our body. Zinc is important for growth and to keep our immune system strong. Magnesium helps build strong bones and also keep our nerves working right.<sup>4</sup>

### Fat and Cholesterol

Fish is high in unsaturated fat and low in cholesterol. Studies show that unsaturated fat may lower LDL or “bad” blood cholesterol levels.<sup>5</sup> Unsaturated fat may also raise HDL or “good” blood cholesterol levels. For this reason, unsaturated fat is better for us.

Unlike fish, red meat, pork, and chicken skin are high in saturated fats. Saturated fat can raise instead of lower bad cholesterol which can lead to heart disease.<sup>6</sup>

You may have heard a lot of talk about Omega-3 fatty acids. Omega-3 fatty acids are a type of unsaturated fat that is found in fish and shellfish. For the rest of this lesson, Omega-3 fatty acids will be referred to as Omega-3s.

Research has shown that Omega-3s may:<sup>7</sup>

- Help prevent heart disease.
- Decrease risk of abnormal heartbeats
- Decrease triglyceride levels, and
- Slightly lower blood pressure
- improve infant health<sup>1</sup>

Some seafood like calamari or squid and shell fish like shrimp (but not lobster) are higher in cholesterol than fin fish like salmon and tuna. A 3oz. serving of shrimp or calamari and squid has slightly less cholesterol than one large egg, which has about 200mg of cholesterol. But, they are also very low in saturated fat.

### Mercury

Fish can have mercury in them. Mercury is naturally found in the earth, however if you take in too much mercury it can be harmful because mercury can get into your blood. High levels of mercury can affect the growth and development of unborn babies and young children.<sup>8</sup> Big fish have the most mercury in them. You can avoid eating too much mercury if you eat less big fish like tilefish, shark, swordfish and king mackerel or do not eat any of these fish at all. They have the most mercury.<sup>8</sup> To see which fish are best to eat or to get more information go to:

<http://www.state.nj.us/dep/dsr/njmainfish.htm> or  
<http://www.fda.gov/food/foodsafety/product-specificinformation/seafood/foodbornepathogenscontaminants/methylmercury/ucm115644.htm>.

### Pregnant and nursing women and children

Most people are not at risk for eating too much mercury. But people who should be extra careful are children, women that may become or are pregnant and nursing women.

Children, women that may become pregnant or are pregnant and nursing women should take the following precautions when eating fish:<sup>8,9</sup>

- Avoid eating shark, swordfish, tilefish and king mackerel.
- Eat 12 ounces of fish that have lower mercury levels each week. See the list below of fish low in mercury for some ideas. The dietary recommendations are for at least 8 ounces a week. However the recommendation for pregnant and nursing mothers is to eat a minimum of 8 ounces of low mercury fish a week. The Omega 3s in fish will help a baby's brain grow and stay healthy.

Below is a quote from the chief scientist at the FDA regarding this recommendation: "Eating 8 to 12 ounces of low-mercury fish is the "sweet spot" for pregnant women to optimize its developmental and health benefits for children while minimizing the risk posed by mercury, a neurotoxin, said Stephen Ostroff, the FDA's chief acting scientist, at a press conference today. The prime payoff, Dr. Ostroff said, is a higher IQ for the child.

These findings consistently demonstrate that among the women who consumed more fish during pregnancy, or at least the amount we're recommending, that there were improvements in [children's] IQ," said Dr. Ostroff, noting that the positive effect extended to verbal as well as overall IQ."

- Eat no more than 6 ounces of "white" albacore canned or fresh tuna a week.
- Check local advisories about the safety of fish caught in local lakes, rivers and coastal areas. Fish caught in local water should be limited to 6 ounces a week for pregnant or nursing women and 2 ounces a week for children. In NJ go to: <http://www.state.nj.us/dep/dsr/njmainfish.htm> for more information.

### Raw or Uncooked Fish

Raw fish and sushi or sushi rolls made with raw fish are not safe for pregnant women, children, older adults or anyone who is very sick like someone with HIV/Aids or cancer.<sup>10</sup> Raw fish can have bacteria and parasites and this can make these people sick. The FDA says that pregnant women should not eat raw fish especially shellfish which could have bacteria or parasites which would hurt them and their baby.<sup>10</sup>

Sushi or sushi rolls made with cooked fish or only vegetables can be safe as long as you follow the guidelines above. The fish in sushi is healthy as long as you pay attention to the things we just talked about. However most sushi portions do not have a lot of fish so you will need to eat a lot of sushi to get your 8 ounces a week.

### Omega-3s and Mercury Levels of Some Fish

Since there may be some risk for children and pregnant women when eating fish, it is important when shopping, to pick fish to eat that are high in Omega-3s and low in mercury.<sup>8</sup> Look at the tables below to help you pick fish to add to your diet.

Fish With Highest Mercury Levels.<sup>8</sup> Pregnant women and children should avoid these:

- Tilefish (golden bass or golden snapper)
- Shark
- Swordfish
- King mackerel
- Bluefish

Fish With Lowest Mercury Levels.<sup>8</sup>

- Shrimp
- Clams
- Oysters
- Salmon
- Herring
- Flounder or sole
- Scallops
- Catfish
- Pollock
- Crabs
- Cod
- Mahi Mahi
- Halibut
- Lobster

Fish With Highest Omega-3s Levels:<sup>8</sup>

- Salmon\*
- Mackerel
- Herring\*
- Lake Trout
- Sardines

Note that **Salmon** and **Herring** are **low in mercury** and **high in Omega 3s**.

### Adding Fish to Your Diet

Many people have a hard time getting enough fish in their diet. Canned or fresh fish can replace chicken or beef in many recipes. Some ways to add fish are:

- Use canned or fresh salmon or tuna to make fish burgers or fish loafs;
- Toss canned tuna or salmon in salads;
- Use fish fillets or canned salmon as a taco filling;
- Mix shrimp, scallops or other fish with pasta or rice dishes;
- Add shrimp or crab to stir-fries;

- Use clams for chowders or haddock or cod for fish stews;
- Use tuna salad or fish fillets as a sandwich filling;
- Make tilapia or your favorite fish into kabobs; and
- Marinate any fish fillet or salmon steak and grill or broil them.

### Buying Fish

Many people are not sure how to buy fish. Below are some tips for buying fish.

Look for fresh fish that have<sup>11</sup>:

- A fresh and mild smell
- Shiny flesh
- Bright, clear and shiny eyes
- Bright red gills
- Flesh that bounces back if pushed down
- Flesh that is firm
- Flesh that is moist
- Their bellies facing down on the ice

Do not buy fresh fish that have<sup>11</sup>:

- A fishy odor
- Bruises on their flesh
- Flesh that looks dried out
- Brown or yellow spots
- Dark spots around cut edges
- Passed the sell by date

With Shellfish, look for: <sup>11</sup>

- Clams, mussels or oysters with tightly closed shells. If the shells are open, they should close if you tap the shell. If you tap the shell and they stay open, the shell fish is dead.
- Shrimp is not usually alive in the store, so to be sure they are fresh, you should be sure they do not have any smell and have almost clear shiny flesh with no black spots or rings. Shrimp can also be bought frozen.
- Lobsters should move around. If they do not they are dead.

Do not use shellfish that you bought alive but died before you could cook them. Throw them away.

### **NOTE:**

**Shellfish like clams and mussels that do not close when you tap them are dead. You should not eat them. They may cause food poisoning. They also smell and taste bad. Throw these dead shellfish away. If you cook them with the live shellfish, you can spread the microbes, bad smell and taste to all the other shellfish. Cooking the fish can kill the germs most of the time, but the bad smell and bad taste that spreads to the other shellfish will not be removed by cooking them.** <sup>12</sup>

Look for frozen fish that<sup>11</sup>:

- Are in clean and tight packages
- Are kept in the cold area of the freezer
- Are not discolored

Do not buy frozen fish that have<sup>11</sup>:

- Open, torn, or crushed packages
- Ice crystals
- Dark or white spots
- Freezer burn

Note: for additional information on buying and serving fish safely you can go to:

<http://www.fda.gov/food/resourcesforyou/consumers/ucm077331.htm>

### Storing Fish

Here are recommendations for how long fresh fish can stay in the refrigerator or freezer.

Note that some fresh seafood should not be frozen. It is also not a good idea to refreeze fish or seafood if it has already been thawed.

|   | <u>Refrigerator</u> | <u>Freezer</u>                |
|---|---------------------|-------------------------------|
| Lean fish:  | 3 days              | 4-6 months                    |
| <ul style="list-style-type: none"> <li>• cod</li> <li>• flounder</li> <li>• haddock</li> <li>• halibut</li> <li>• pollack,</li> <li>• ocean perch</li> <li>• sea trout &amp; rock fish</li> </ul> |                     |                               |
| Fatty fish:   | 3 days              | 2-3 months                    |
| <ul style="list-style-type: none"> <li>• salmon</li> <li>• mackerel</li> <li>• bluefish</li> <li>• tuna</li> <li>• swordfish</li> </ul>   |                     |                               |
| Fresh shellfish:  |                     |                               |
| <ul style="list-style-type: none"> <li>• Shrimp</li> </ul>  | 2-3 days            | 4-6 months<br>(raw or cooked) |
| <ul style="list-style-type: none"> <li>• Live mussels &amp; clams</li> </ul>  | 4-5 days            | *                             |
| <ul style="list-style-type: none"> <li>• Shucked mussels &amp; clams</li> </ul>   | 2-3 days            | 3-4 months                    |
| <ul style="list-style-type: none"> <li>• Live oysters</li> </ul>  | 7-10 days           | *                             |

- |                        |          |                            |
|------------------------|----------|----------------------------|
| • Shucked oysters      | 5-7 days | 3-4 months                 |
| • Scallops             | 2-3 days | 3 months                   |
| • Live crabs & lobster | 1-2 days | 2-3 months (after killing) |
| • Crabmeat             | 2-3 days | 4 months                   |
| • Squid, whole         | 2-3 days | 1-2 months                 |
| • Squid, cleaned       | 3-4 days | 3-4 months                 |

\* Not recommended due to safety or quality issues

**Do not refreeze thawed shrimp or any previously frozen fish or seafood**

### Cooking with Fish

Fish can be cooked many ways. Some ways, like frying, may add more fat to the meal and are not as healthy. Try baking, broiling, grilling or steaming fish instead of frying to keep the amount of added fat low. Limit adding high fat sauces like tartar sauce to your fish. Instead, add flavor to fish with low-fat choices like cocktail sauce, lemon juice, herbs, spices and garlic.

Sometimes cooking fish can be tricky. Many people do not know when fish is done. Fish and shellfish should be cooked to an internal temperature of 145 ° F and held there for at least 15 seconds. The only way to know if you reach this temperature is to use a cooking thermometer. You can also use double check if fish is fully cooked by:<sup>13</sup>

- Fin fish – cook until firm and flesh flakes easily with a fork
- Shrimp, lobster and crab – cook until shell turns red and flesh becomes white and firm
- Scallops – cook until they become milky white and firm
- Clams, mussels, and oysters – cook until the shell opens

**Reminder: Shellfish like clams and mussels that do not close when you tap them are dead. You should not eat them. They may cause food poisoning. They also smell and taste bad. Throw these dead shellfish away. If you cook them with the live shellfish, you can spread the microbes, bad smell and taste to all the other shellfish. Cooking the fish can kill the germs most of the time, but the bad smell and bad taste that spreads to the other shellfish will not be removed by cooking them.**

### Questions The Participants May Ask:

**NOTE TO EDUCATOR: We have included as much basic information as we can on the safety of different fish. If participants want more information about a specific fish, tell them that this lesson is not designed nor are you able to give them information about every type of fish they might eat. Refer them to some of the website pages that are supplied on the handout at the end of the lesson.**



Q: Which fish have the highest amount of Omega-3s?

A: There is no easy way to identify the amount of Omega-3s in fish. Research has shown that the fish with the highest Omega-3s are:<sup>8</sup>

- Salmon;
- Lake Trout;
- Canned albacore “white” tuna;
- Herring
- Sardines

Some fish, like king mackerel, swordfish, shark and tilefish, are high in Omega-3s, but are also high in mercury. Children, women who plan to become pregnant or are already pregnant and nursing should avoid these high mercury fish. Everyone else should limit the amount they eat. The best choices of fish are high in Omega-3s and low in mercury.<sup>8</sup>

Q: Where are Omega-3s found on the Nutrition Facts Label?

A: Omega-3s are not listed on the Nutrition Facts Label. Unsaturated fats are sometimes listed underneath “total fat” on the label. Omega-3s are one type of unsaturated fats. Some food packages will tell you that they have Omega 3 fatty acids on the front of the label but not in the nutrition facts label.

Q: If I am allergic to or dislike fish can I get Omega-3s anywhere else?

A: A different form of Omega-3s than the ones found in fish can be found in flaxseeds, canola oil, soybeans and walnuts. Like the Omega-3s found in fish, they can provide health benefits, but not the same ones and do not always have the same health benefits. People who dislike eating fish can get the amount of Omega-3s they need by taking fish oil capsules. There are also vegetarian Omega 3 pills that are made from algae. However, you should never take any pill without first talking to your health care professional. Also, these pills do not have the protein, vitamins or minerals you get from eating fish. People with fish allergies should avoid taking fish oil pills or ask their doctor before taking them.<sup>14</sup>

Q: Is it safe to eat the fish and other seafood my friends or family catch?

A: Fish and other seafood caught by friends and family may be high in mercury and other pollutants. Specific guidelines for each area in New Jersey can be found at <http://www.state.nj.us/dep/dsr/njmainfish.htm>. If the person eating fish is considered a high risk individual, like an infant, child, pregnant or nursing woman, and women of childbearing age, you need to look at the chart with recommendations for high risk populations.<sup>15</sup> To see this chart go to: <http://www.state.nj.us/dep/dsr/fishadvisories/statewide.htm>.

**NOTE TO EDUCATOR. You may want to print the part of this brochure that applies to the waters in the area where your participants live so you can answer specific**

**questions for your participants. It is not necessary to discuss or bring the whole brochure with you to class.**

We have summarized some of the information found in the brochure below. Please note: The information contained in the brochure may say how often a fish can be eaten in a week or a month. It might also give information for the same fish which may also say only eat this fish a few times a year. This might seem confusing but what they are telling you is that while you can have the fish more than one time in a year, you should not have it more than one time in a week or in a month. An example might be fish S which can be eaten once a month but only 4 times a year. This means you can eat it 4 times a year but not more than once a month.

**FOR GENERAL POPULATION (NOT HIGH RISK INDIVIDUALS)**

**Barnegat Bay at Manahawkin Bay:**

*1 meal per week for:*

- Weakfish

**Lower (Tidal) Delaware River:**

*1 meal per year for:*

- American Eel
- Channel Catfish

*4 meals per year for:*

- Striped Bass
- White Perch

*1 meal per month:*

- White Catfish

**Pinelands Area:**

*1 meal a week for:*

- Sunfish
- Yellow bullhead
- Brown bullhead

*1 meal a month for:*

- Largemouth bass
- Chain pickerel

**Coastal Area:**

*1 meal per week for:*

- Summer Flounder
- Weakfish

*1 meal per month for:*

- Blue fish less than 6 pounds or 24 inches
- Striped Bass

*4 meals a year for:*

- American eel
- Striped bass
- Bluefish that is more than 6 pounds or 24 inches

*DO NOT EAT:*

- American Lobster – do not eat the green gland

Newark Bay Complex:

*4 meals per year for:*

- Striped Bass

*1 meal per year for:*

- White Catfish

*DO NOT EAT OR CATCH:*

- Blue claw crab
- American Eel
- White Perch

Raritan Bay Complex

*1 meal per week for:*

- American Lobster – do not eat green gland
- Summer Flounder

*1 meal per month for:*

- Weakfish
- Striped Bass
- Winter Flounder
- Porgy
- 7 crabs per month – do not eat green gland

*1 meal per year for:*

- American Eel
- White Perch (Raritan Bay)

Inland Freshwater Areas

*1 meal a week for:*

- Chain pickerel
- Smallmouth bass
- Largemouth bass
- Trout (Brown, Brook, Rainbow)

Q: Is fresh fish better for you than canned fish?

A: Both canned and fresh fish have the same health benefits. If you are on a tight budget, canned fish might be a better choice because it does not cost as much as fresh fish. Even though canned fish has many of the benefits of fresh fish, it may also contain a high amount of sodium. If you are watching your sodium or salt intake, it may be better for you to buy

canned fish which is lower in salt or sodium or has no added salt or sodium or at least drain the canned fish before eating.

Q: Is there a lot of salt in canned fish and is that bad for my health?

A: Most Americans should eat less than 2,300 milligrams (mg) of sodium per day.<sup>2</sup> However, according to the 2010 Dietary Guidelines for Americans adults 51 years or older, African Americans of any age or anyone who has hypertension, diabetes or chronic kidney disease should reduce their intake to 1,500 mg a day. This is about 2/3 of a teaspoon.<sup>1</sup> A 6-ounce serving of canned salmon may contain close to 1,000 mg of sodium. You should definitely be sure to drain the fish before eating it. If you need to watch your sodium intake, canned fish with no added sodium may be a better choice for you. A 6-ounce serving of canned salmon with no added sodium has about 130 mg of sodium.<sup>16</sup>

Q: How much canned tuna is safe to eat?

A: Canned albacore "white" tuna has more mercury than canned light tuna. Women, who may become pregnant, are pregnant or are nursing and children should not eat more than 6 ounces of canned "white" albacore tuna a week.<sup>17</sup> They may want to be cautious about canned albacore tuna because of the mercury level.

Q: Where can I find canned salmon and can I use it like tuna?

A: Canned salmon is often next to the canned tuna in the food store. Canned salmon can be used just like tuna.

Q: If I eat 8 ounces of fish in 1 meal will that make my servings for the week?

A: Yes, but the 8 ounce recommendation is a minimum so you can eat more than 8 ounces each week or eat 8 ounces in 2-4 ounce servings if you want<sup>1</sup>

Q: Are fish sandwiches served at McDonald's and other fast food restaurants high in Omega-3s?

A: Most fast food fish sandwiches are made from either Pollock or Cod. These are lean white fish and may not have a lot of Omega-3s. Although these sandwiches can count as a serving, most are fried in unhealthy trans-fat and are also high in total fat and saturated fat. They should be eaten only once in awhile. When ordering a fish sandwich from fast food restaurants skip the tartar sauce to lower the amount of fat and Calories in it.

Q: Does fish have a lot of cholesterol?

A: Most fin fish like salmon, tuna, trout, catfish, etc. are low in cholesterol. However, some seafood like calamari or squid and shrimp has more cholesterol. A 3 oz serving of one of these kinds of seafood have a little bit less cholesterol than one large egg, about 200 mg of

cholesterol. Also remember that all seafood is very low in saturated fat one of the main things that raises cholesterol in the blood.

Q: Do sushi and frozen fish count towards your 8 ounces of fish a week?

A: Yes. Sushi that is made from fish or seafood and frozen fish has all the things fresh fish have. However, usually the amount of fish in a sushi roll or sushi is not very much maybe an ounce or less.

Q: What is the difference between shellfish and fin fish?

A: Shellfish are things like, clams, mussels, shrimp, crabs and lobster which have a hard outer shell. Some shells are thicker and harder than others. Fin fish are fish like, tuna, salmon, mackerel and are most often covered in small scales and may have two or more fins on their body.

## Endnotes:

- <sup>1</sup> Dietary Guidelines for Americans 2010. U.S. Department of Health and Human Services and U.S. Department of Agriculture available at: <http://www.cnpp.usda.gov/Publications/DietaryGuidelines/2010/PolicyDoc/PolicyDoc.pdf>.
- <sup>2</sup> American Heart Association. “Fish and Omega-3 Fatty Acids” 2005. 22 March 2005. <http://216.185.112.5/presenter.jhtml?identifier=4632>
- <sup>3</sup> Duyff, Roberta L. *American Dietetic Association Complete Food and Nutrition Guide*. 2<sup>nd</sup> Ed. John Wiley & Sons, Inc. Hoboken, NJ. 2002. p68
- <sup>4</sup> Choosemyplate.gov, “Why is it important to make lean or low-fat choices from the protein foods group.” Available at: <http://www.choosemyplate.gov/food-groups/protein-foods-why.html>. Accessed January 17, 2014 .
- <sup>5</sup> ”Know Your Fats.” American Heart Association Presenter. January 2009. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=532>.
- <sup>6</sup> ”Saturated Fats.” American Heart Association Presenter. January 2009. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=3045790>. Accessed on April, 21, 2010.
- <sup>7</sup> ”Fish and Omega 3 Fatty Acids” American Heart Association Presenter. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=4632> Accessed on April, 21, 2010.
- <sup>8</sup> American Heart Association. “Fish, Levels of Mercury and Omega-3 Fatty Acids” 2005. Available at; <http://www.americanheart.org/presenter.jhtml?identifier=3013797>. Accessed April 21, 2010
- <sup>9</sup> FDA.gov “What you need to know about mercury in fish and shellfish.”. Available at: <http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm110591.htm>. Accessed: 1/17/14
- <sup>10</sup> “Safe Eats - Meat, Poultry & Seafood,” US Dept of Health and Humans Services, Food and Drug Administration, Resources for Health Educators, 8/14/2009. Available at: [http://www.nal.usda.gov/wicworks/Sharing\\_Center/MD/prenatalMD.pdf](http://www.nal.usda.gov/wicworks/Sharing_Center/MD/prenatalMD.pdf). Accessed 5/9/11.
- <sup>11</sup> Ensle, K. Rutgers cooperative research and extension “Eating fish is healthy: keeping environmental and health concerns in perspective.” December 2003 Available at: <http://njaes.rutgers.edu/pubs/publication.asp?pid=FS017> .
- <sup>12</sup> D. Schaffner, Director for Advanced Food Technology, Rutgers University, New Brunswick, personal communication, June 12, 2012
- <sup>13</sup> USDA Food Safety Facts. “Highlights-Summer Fun” 9/2009. Available at: <http://www.fda.gov/Food/ResourcesForYou/HealthEducators/ucm083737.htm> Accessed: April 26, 2010
- <sup>14</sup> “Omega-3 fatty acids, fish oil, alpha-linolenic acid.” Medline Plus a service of NLRM and NIH. Updated August 26, 2009. Accessed May 25, 2010. Available at: <http://www.nlm.nih.gov/medlineplus/druginfo/natural/patient-fishoil.html>
- <sup>15</sup> NJ Department of Environmental Protection, NJ Department of Health and Senior Services, and NJ Department of Agriculture.
- <sup>16</sup> “USDA National Nutrient Database for Standard Reference” 2005. 22 March 2005. [http://www.nal.usda.gov/fnic/foodcomp/cgi-bin/nut\\_search\\_new.pl](http://www.nal.usda.gov/fnic/foodcomp/cgi-bin/nut_search_new.pl)

<sup>17</sup> FISH FACTS for Pregnant Women, Women Who May Become Pregnant, Nursing Mothers and Young Children. Food and Nutrition Service or USDA Fish Facts. April 28, 2004. Accessed May 25, 2010. Available at:

**For Additional Information:**

“Eating fish is healthy: keeping environmental and health concerns in perspective.” Ensle, K. Rutgers Cooperative Research and Extension December 2003 Available at:  
<http://njaes.rutgers.edu/pubs/publication.asp?pid=FS017>

“FDA.gov “What you need to know about mercury in fish and shellfish.” Available at:  
<http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm110591.htm>. Accessed:  
1/17/14

“Fresh and Frozen Seafood: Selecting and Serving it Safely,” FDA Us Food and Drug Administration, Resources for Consumers:  
<http://www.fda.gov/food/resourcesforyou/consumers/ucm077331.htm>

Nutrition Information for Raw Fruits, Vegetables, and Fish. Available at:  
<http://www.fda.gov/Food/LabelingNutrition/FoodLabelingGuidanceRegulatoryInformation/InformationforRestaurantsRetailEstablishments/ucm063367.htm>

# Fishing For A Healthy Diet

## Main Themes:

Nutrition & Diet

Cooking & Food Storage

Shopping

Budgeting

Safety & Sanitation

## Materials Needed:

Flip Chart to write on if Chalk or Dry Erase Board is not available at site

### Activity 1:

7.2 ounce bag of Goldfish® crackers (optional)

or individual 1 ounce self-serve packets (optional)

1 pair of latex gloves –if distributing Goldfish® crackers or making salmon dip in class

Hand sanitizer if sink and soap are not available –if distributing Goldfish® crackers or making salmon dip in class

3 oz Nasco fish fillet model or 3 oz Dairy council fish fillet picture

True and False Go Fish Cards—1 pair for each per participant or group of participants — laminate and reuse them, if you like

### Activity 2

Picture of a fresh fish

Picture of a frozen fish

Picture of shell fish

### Activity 3

Picture of a fresh fish

Picture of a frozen fish

Picture of shell fish

### Handouts:

Salmon Dip Recipe—1 per participant

Salmon Burger Recipe—1 per participant

Tuna Mac and Cheese Recipe—1 per participant

**Activity 4 (optional) : Make ahead of time and serve in Activity 3, Make in class as part of activity 3. Or prepare as a separate activity 4 if time allows. It is up to you. se.**

#### Recipe 1

1 can (7.5 ounces) chilled pink salmon

¼ cup plain low-fat yogurt

¼ cup low-fat mayonnaise or salad dressing

2 tablespoons minced green onion

Keep cold!



1 tablespoon dill

### Recipe 2

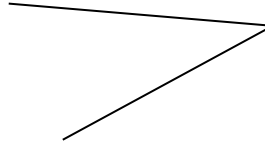
1 can (7.5 ounces) chilled pink salmon

½ cup low-fat mayonnaise or salad dressing

½ cup plain non-fat or low-fat yogurt

¼ cup cottage cheese

1 tablespoon fresh or ½ teaspoon dried, parsley or chives



Keep cold!

Large bowl

Large spoon

Tablespoon measuring spoon

¼ cup measuring cup

Can opener

Hot sauce

Dippers like crackers and/or chopped vegetables like carrots, cucumbers, broccoli or your favorites—5 per participant

Napkins—1 per participant

Plates—1 per participant

Juice – optional

Cups – optional one for participant

Ice pack or bag of ice

Hand sanitizer if sink and soap are not available

Several pair of disposable latex gloves



Jonathunder-wiki commons



paulins



Picture of a fresh fish

Picture of a frozen fish

Picture of shell fish

### **Handouts:**

“What to Look For When Buying Fish/Places to Find Out About Fish”

### **Time The Activity Is Expected To Take:**

Before You Begin: 2-5 minutes

Activity 1: 20-25 minutes

Activity 2: 15-20 minutes (the time for this activity can be reduced if salmon dip is prepared ahead of time)

Activity 3: 15-20 minutes

Activity 4: (optional activity if there is extra time) 15-20 minutes

Next Week’s Goals: 2-5 minutes

# Fishing For A Healthy Diet

## Lesson Plan:

### Before You Begin: (2 - 5 minutes)

1. Ask the participants if they worked on their goals from the last lesson. Ask them which goals they worked on and how or what they did to work on them. Try to get people to tell the class what they did. If they did not work on their goals, ask them to work on them before the next class.
2. Tell the participants what the objectives are for today's lesson.

### Activity 1: "Go Fish!" (20-25 minutes)

1. Tell the class that today you are going to talk about the importance of eating fish.
2. Start a short discussion:
  - Ask the class to tell you how many times they eat fish each week  
*Answers will vary*
  - Ask the class how much fish they eat at each meal. **Note to Educator: show them a model of 3oz of fish and ask them if they eat more or less than this.** Point out that this fish model is a little bit less than  $\frac{1}{2}$  of what is best to eat each week.  
*Answers will vary*
  - Ask the class if they know what the recommendation is for fish.  
*Answer: 8 oz of fish a week. Tell them they can divide it into 2 servings of 4 ounces if they want, but, but they should have at least 8 ounces per week.*
  - Ask the class what they know about fish and health.

*Answers will vary but should include statements that fish is:*

- *good for you*
  - *low in fat and cholesterol*
  - *good for your heart*
  - *can lower blood pressure*
  - *important for babies' health*
3. Tell the class that they are now going to play a game. Give each participant or group of participants a Go Fish True and a Gold Fish False card. Tell the class that you are going

to read a statement to them. If they think that the statement is correct, they should hold up their Go Fish True card and if they think the statement is not true they should hold up their Gold Fish False card.

**Note to educator: We recommend that you print out and take to class the information from the website about fish from the local waters in the area your participants live. This can be found in the background material on page 8. You should be familiar with the information for the local waters in the area you are teaching so that you can answer any questions that come up when you play the game. It is not necessary, nor will there be time to discuss fish from all areas of New Jersey**

If you would like, you can give out GOLDFISH® cracker to anyone who gives the right answer. This part of the activity is optional. If you want to hand out crackers, before you start the game, ask the class for a volunteer to help you with this task. First have your volunteer sanitize their hands and put gloves on. Then give out small paper plates to each participant on which your volunteer can put the GOLDFISH® crackers. Please do not skip this step. It is important that our participants feel that their food and the handling of food is done in a sanitary way. If you have a large class you may want to skip this part of the activity since it might be difficult and time consuming to distribute crackers to each participant, or you can use this **ALTERNATE METHOD:** Purchase 1 ounce self serv packets and distribute those instead to each participant either the first time they have a correct answer or at the end to everyone, or whatever way you would like to distribute these packets. You chose.

If you give out individual GOLDFISH® crackers, tell the volunteer that each time a participant answers a question you ask correctly they should use a spoon to give 2 Goldfish® to that participant and they can take 2 Goldfish® for themselves as well. **Note:** If you are giving out packets, you can decide when to distribute the packets during this activity or at the end.

**Remind the class not to eat their crackers, that they will get to eat their Goldfish® later but they should not eat them now.**

**Reminder: If participants want more information about a specific fish, let them know that this lesson is not designed nor are you able to give them information about every type of fish they might eat. Refer them to some of the website pages that are supplied on the handout at the end of the lesson.**

4. Read the first statement on the “Go Fish Guide” aloud. Give the class about 10 seconds to decide if they should holdup their Go Fish True or Gold Fish False card. Remind them that holding up their Go Fish True card means that they think the statement you read is true and if they hold up their Gold Fish False card they think the statement is not true. After everyone has guessed, tell the class the correct answer. Explain to the class that you are giving them information about the statement so they do not think they have

to hold up their true and false cards while you are talking. If you are giving out crackers follow the instructions above.

5. Read the next statement on the “Go Fish Guide” and Give the class about 10 seconds to decide if they should hold their Go Fish card up. Remind them again that holding up their Go Fish True card means that they think the statement you read is true and if they hold up their Gold Fish False card they think the statement is not true. After everyone has guessed, once again, tell the class the correct answer. Do not forget to explain to the class that you are giving them information about the statement so they do not think they have to hold up their true and false cards while you are talking. If you are giving out crackers, again, follow the instructions above.

**Once again, remind them not to eat their Goldfish® yet.**

6. Repeat the same steps for the rest of the statements.
7. If you have given out Goldfish® crackers, once you have read all the statements, thank the volunteer for helping. Give him or her rest of the bag of Goldfish®, if you like and **tell the class that they can eat their Goldfish® crackers now.**
8. Ask the participants who said they do not eat 8 ounces of fish a week if they would be willing to try to add more fish to their diets now that they know all of the benefits of eating fish.
9. Ask them how they will add more fish to their diets. Write the answers down on the board or a flip chart for everyone to see. Also ask the participants that eat fish often to share how they like to eat it. Also write these answers on the board or on a flip chart.

*Answers may vary.*

**NOTE TO EDUCATOR: If participants mention that they like to eat fried fish or fish with fattening toppings like tartar sauce, butter or cheese ask the class to suggest other ways to have fish that would lower the fat and not include frying. Write these answers on the board or a flip chart as well. Answers may vary but include healthier cooking options like grilling, broiling or baking, and using low-fat toppings like cocktail sauce, lemon juice, herbs, spices, garlic or low-fat cheese.**

## **Activity 2: Bringing Fish From The Store To Your Table (10-15 minutes)**

1. Tell the class that we are going to go talk about buying fish. They will learn some tips that will help them pick fish.
2. Hold up the fresh fish picture. Ask the class to raise their hand if they buy fresh fish. Ask them what they look for when buying fresh fish. Wait for the class to answer. Be

sure they talk about all of the bullet points below. If not read the points from the list below that no one said.

*Fresh fish should have all these things:*

- *A fresh and mild smell*
- *Flesh that is shiny, firm, moist and bounces back when pushed down.*
- *Bright, clear and shiny eyes*
- *Bright red gills*
- *Their bellies facing down on the ice*

3. Ask the class what things they should avoid when buying fresh fish. Wait for the class to answer. Be sure they talk about at all of the bullet points below. If they leave anything out, from the list below be sure to tell them.

*Do not buy fresh fish that have any of the following things:*

- *A fishy odor*
- *Flesh that looks dried out, bruised or with brown or yellow spots*
- *Dark spots around cut edges*
- *Passed the sell by date*

4. Hold up the frozen fish picture. Ask the class to raise their hand if they buy frozen fish. Ask them what they look for when buying frozen fish. If they leave anything out, from the list below be sure to tell them.

*Look for frozen fish that:*

- *Are in clean and tight packages*
- *Are kept in the cold area of the freezer*
- *Are not discolored*

5. Ask the class what they do not want to find when buying frozen fish. If they leave anything out, from the list below be sure to tell them.

*Do not buy frozen fish that have:*

- *Open, torn, or crushed packages*
- *Ice crystals*
- *Dark or white spots*
- *Freezer burn*

6. Hold up the shellfish picture. Ask the class to raise their hand if they buy shell fish. Ask them what they look for when buying fresh shellfish. If they leave anything out, from the list below be sure to tell them.

- *With Shellfish, look for:*

- *Clams, mussels or oysters with tightly closed shells. If the shells are open, they should close if you tap the shell. If you tap the shell and they stay open, they are dead.*
- *Shrimp that do not have any smell and have almost clear shiny flesh with no black spots or rings.*
- *Lobsters that move around. If they don't they are dead.*

*Do not use shellfish that you bought alive but died before you could cook them. Throw them away.*

7. Ask the class what they do not want to find when buying fresh shellfish. If they leave anything out, from the list below be sure to tell them.

*Do not buy fresh shellfish that are:*

- *Already dead*
- *That you bought alive but they died before you could cook them. Throw them away.*

NOTE TO EDUCATOR: If no one buys fresh, frozen, or shellfish, ask what they think would be important in each case. If no one answers then share the information with the class.

### **Activity 3: How to Heat ‘Em and How to Eat ‘Em’ (10-15 Minutes)**

**Note to Educator:** The activity after this one, Activity 4, which is optional, is preparation of a salmon dip to be tasted by the class. If you have time you can prepare the dip in class as a separate activity. Otherwise, you can chose to prepare the dip ahead of time or have it prepared by a volunteer from the class during this activity. You can then share it with the class at the end of this activity. You do not have to use this dip if you do not want to or are not allowed to bring food to your site. Be sure anyone touching food uses hand sanitizer and latex gloves and spoons to serve the dip.

1. Hold up the fresh fish picture and the frozen fish picture. Ask the class to raise their hand if they cook either fresh or frozen fish. Tell them you cook fresh and frozen fish the same way, though frozen fish may take longer. Ask them how they know the fish is done cooking.

*Answers may vary. If not mentioned, tell participants that: Sometimes cooking fish can be tricky. Many people do not know when fish is done. Some tips to make sure the fish is fully cooked:*

- *Fresh and frozen fish - cook to an internal temperature of 145 ° F and hold there for at least 15 seconds. You should use a cooking thermometer to be sure the internal temperature is 145 ° F.*
- *Fin fish – to double check if the flesh is done, be sure the flesh becomes white, firm and flakes easily with a fork.*

2. Hold up the shellfish picture. Ask the class to raise their hand if they cook shellfish. Ask them how they know the shellfish is done cooking

*Tips to make sure shellfish are fully cooked:*

- *Shellfish - cook to an internal temperature of 145 ° F and hold there for at least 15 seconds.*
- *Shrimp, lobster and crab – cook until shell turns red and flesh becomes white and firm*
- *Scallops – cook until they become milky white and firm*
- *Clams, mussels, and oysters – cook until the shells open. Throw out the shells that don't open. That means the shellfish was dead before you cooked it.*

3. Tell the class that canned or fresh fish can replace chicken or beef in many recipes.

If you are not using the dip in this activity skip to the next step.

Tell the class you have brought (or are preparing if you chose to do that instead) a dip made with canned Salmon. Ask if anyone in the class is allergic to Salmon and be sure they do not get served any dip.

4. Ask them if they can think of any ways to use fish in some of their favorite meals. Wait for the class to share and write them on the board or a flip chart. Be sure they have included all the suggestions below.

Some ideas for fish are:

- Use canned or fresh salmon or tuna to make fish burgers or fish loafs;
- Toss canned tuna or salmon in salads;
- Use fish fillets or canned salmon as a taco filling;
- Mix shrimp, scallops or other fish with pasta or rice dishes;
- Add shrimp or crab to stir-fries;
- Use clams for chowders or haddock or cod for fish stews;
- Use tuna salad or fish fillets as a sandwich filling;
- Make your favorite fish into fish and veggie kabobs; and
- Marinate any fish fillet or salmon steak and grill or broil them.

5. Ask the participants to write on their paper which of these ideas they might try before the next class. Ask them to bring the paper to the next class.

Skip to step 8 if you did not prepare the dip

6. Have the class taste the salmon dip – either prepared (see instructions in Activity 4) or have volunteer prepare during this Activity 3.
7. Ask the class if there is anything that they would do to change the recipe or if there is anything they would add to it. Ask them if they would be willing to make this recipe

at home in order to help them and their families get 8 ounces of fish per week. Give the participants that are willing to make this recipe at home a copy of the recipe.

8. Tell the class you have two other recipes for them:  
Note: if you did not use the dip, tell them you have 3 recipes and add the salmon dip recipes to this step.
  - a. Salmon Burgers and
  - b. Tuna Mac and Cheese
9. Ask the class if they would try any of these at home. Give a recipe to anyone who says they will try these recipes at home.
10. If you like, you can again, remind the class of the other ways they said they would try to eat fish at home. by reading what you wrote on the board or your flip chart
11. If you like, you can again remind the class the other ways they said they can add fish to dishes they already make at home. Read what you wrote on the board or your flip chart

#### **Optional Activity 4: “Be at Your Peak with 8 ounces a Week!” (15 - 20 minutes)**

**We recommend that this dip be prepared ahead of time or during activity 3 and served to the class. If you feel you will have time, you can also use this as an optional Activity. However, Activities 1-3 must be completed if you plan to use this as a stand alone activity.**

Attention: Canned salmon is used in this activity to make the salmon dip. Check with participants before the lesson to see if anyone is allergic to fish. Be sure that if anyone is allergic they do not come in contact with the fish dip you are preparing. If necessary they may want to leave the room or you may want to skip this activity.

1. Tell the class that you are going to make an easy fish recipe, Salmon Dip. Some of the participants may tell you that they do not like to eat fish or do not like salmon. Tell them that the taste of canned salmon is very similar to the taste of canned tuna and encourage them to give the salmon dip a chance. Tell the class that salmon is a good choice because it is high in healthy fats called omega 3s and low in mercury.
2. Have the class wash their hands using soap and water. If this is not possible, pass around hand sanitizer. Hand out the Salmon Dip recipe, plates, crackers or veggie dippers and napkins.
3. Ask for 1 participant to help you prepare the recipe and ask the volunteer to come to the front of the class. Chose a salmon dip recipe, either option 1 or option 2. Give them the hand sanitizer and a pair of gloves. Please be sure you and the volunteer



both put on gloves before touching any of the ingredients. Anyone handling any food should be wearing gloves. As you prepare the recipe with the participant, read each step aloud to the class from the recipe.

4. Once the recipe is finished, give everyone a plate with a scoop of salmon dip and 3-4 veggie dippers or crackers and let them know that hot sauce is available. Be sure everyone has napkins. Ask for reactions.
5. If you brought juice or water give each participant a cup of it.
6. Ask the class if there is anything that they would do to change the recipe or if there is anything they would add to it. Ask them if they would be willing to make this recipe at home in order to help them and their families get 8 ounces of fish per week. Give the participants that are willing to make this recipe at home a copy of the recipe.
7. Tell the class you have two other recipes for them:
  - c. Salmon Burgers and
  - d. Tuna Mac and Cheese
8. Ask the class if they would try either of these at home. Give a recipe to anyone who says they will try these recipes at home.
9. If you like, you can again, remind the class of the other ways they said they would try to eat fish at home. by reading what you wrote on the board or your flip chart
10. If you like, you can again remind the class the other ways they said they can add fish to dishes they already make at home. Read what you wrote on the board or your flip chart

## Next Week's Goals: (5 minutes)

1. Ask the participants to name 1 thing that they learned in today's class that they will use. Make sure that each learning objective is mentioned, and if not, be sure to re-state that objective. Remind them to work on meeting their new goals they set today before the next class. Let them know that they will be asked what changes they made at the next class.
2. Invite comments, suggestions, or questions.
3. Distribute handout "What to Look For When Buying Fish/Places to Find Out About Fish" to anyone who wants more information.
4. Thank the participants for coming and tell them what the next lesson will be about.

## For The Teacher: "What Makes This Lesson Behaviorally Focused?"

- Activity 1 is behaviorally focused because participants are asked to say how they will try to add fish to their diet.
- Activity 3 is behaviorally focused because the participants share what they know cooking fresh and frozen fish and tell how they will add fish to their recipes.



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This material was funded by USDA's Supplemental Nutrition Assistance Program (SNAP). To apply for SNAP, call or go to your local SNAP office. In NJ apply online at: [www.NJHelps.org](http://www.NJHelps.org); or to learn more go to [www.fns.usda.gov/fsp](http://www.fns.usda.gov/fsp). USDA is an equal opportunity provider and employer.

*Cooperating Agencies:* Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

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To Apply for SNAP visit [www.njsnap.org](http://www.njsnap.org)

# What to Look for When Buying Fish

Fresh fish should have all the things below:

- A fresh and mild smell
- Flesh that is shiny, firm, moist and bounces back when pushed down.
- Bright, clear and shiny eyes
- Bright red gills
- Their bellies facing down on the ice

Do not buy fresh fish that have any of the following things:

- A fishy odor
- Flesh that looks dried out, bruised or with brown or yellow spots
- Dark spots around cut edges
- Passed the sell by date

With Shellfish, look for:

- Clams, mussels or oysters with tightly closed shells. If they are open, they should close if you tap the shell. If you tap the shell and they stay open, they are dead.
- Shrimp is not usually alive in the store, so to be sure they are fresh, they should not have any smell and have almost clear shiny flesh with no black spots or rings. Shrimp can also be bought frozen.
- Lobsters that move around. If they don't they are dead.

## Places to Find out about Fish

For info on what fish from local waters are safe to eat and other information of fish go to this site from the New Jersey Department of Environmental Protection:

<http://www.state.nj.us/dep/dsr/njmainfish.htm>

<http://www.state.nj.us/dep/dsr/fishadvisories/2009FishAdvisoryBrochure.pdf>.

For more info on buying and serving fish safely from the US FDA go to:

<http://www.fda.gov/food/resourcesforyou/consumers/ucm077331.htm>

For more info on mercury in fish from the US FDA go to:

<http://www.fda.gov/food/foodsafety/product-specificinformation/seafood/foodborne pathogenscontaminants/methylmercury/ucm115644.htm>

For information eating fish while you are pregnant or breastfeeding go to:

<http://www.fda.gov/Food/ResourcesForYou/Consumers/ucm110591.htm>. or

[http://www.nal.usda.gov/wicworks/Sharing\\_Center/MD/prenatalMD.pdf](http://www.nal.usda.gov/wicworks/Sharing_Center/MD/prenatalMD.pdf).

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## For The Educator: Go Fish Guide

1. Fish is a good source of protein, vitamins and minerals.

*TRUE!*

*Not only is fish a good source of protein, it is also high in B vitamins, vitamin E, vitamin A, iron, zinc, and magnesium. Your body needs these vitamins and minerals to work right and help you stay healthy.*

Note to educator: If participants want to know more about these vitamins and minerals, refer to the background page 2-3 for information to share with them.

2. Fish is unsafe to eat because it contains mercury.

*FALSE.*

*It is only unsafe if you eat too much of fish that are high in mercury. Big fish contain the most mercury, so eat less of fish like swordfish and king mackerel. It is best to eat fish that are high in Omega-3s and low in mercury like salmon. Pregnant women, women who might become pregnant and children should limit the amount of high mercury fish they eat.*

3. Cooking Fish can remove the mercury.

*FALSE.*

*Mercury is found in all parts of the fish and is still there after you cook it. However, since many pollutants are stored in the fat, grilling, baking, or broiling fish and then draining the fat can reduce the amount of pollutants.*

*NOTE TO EDUCATOR: Use the brochure at:*

*<http://www.state.nj.us/dep/dsr/fishadvisories/2009FishAdvisoryBrochure.pdf> to answer questions with more specific answers about fish recommendations around New Jersey for the general population and at risk populations (children, pregnant and nursing women).*

4. Eating salmon, trout or oysters can help keep your heart healthy.

*TRUE!*

*These fish are some of the richest sources of omega-3s. Omega-3s can help keep your heart healthy.*

5. Fish is high in fat.

*It Depends - Tell the class that this statement is neither True nor False. This will depend on the type of fish. Some fish, like salmon, sardines and mackerel are high in unsaturated fat which is often called Omega-3 fat. This is a type of unsaturated healthy fat found in fish. Omega-3s may help prevent heart disease, decrease triglyceride levels, and slightly lower blood pressure. Omega -3s can lower “bad” and may raise “good” cholesterol. Some fish may have less fat like cod and halibut.*

6. Pregnant and nursing women should not eat fish because it is unhealthy for them.

*FALSE.*

*Women who are pregnant, nursing or thinking of becoming pregnant should watch the type of fish they chose to eat. It is recommended to eat 12 ounces of low mercury fish a week like salmon. However pregnant or nursing mothers should eat a minimum of 8 ounces a week. Avoid fish that are high in mercury like shark, swordfish, tilefish and king mackerel. Eat no more than 6 ounces a week of fish caught in local waters. Eat no more than 6 ounces a week of canned tuna.*

7. It is safe for everyone to eat raw fish or sushi.

*FALSE.*

*Pregnant women, young children, older adults and anyone with a compromised immune system, like someone with HIV/Aids or cancer should not eat raw fish or sushi. It has bacteria and parasites which might make them sick.*

8. Canned fish may be high in sodium.

*TRUE!*

*A 6 ounce serving of canned salmon may contain close to 1,000 mg of sodium. You can lower the sodium by draining the can or buy cans with no or low sodium. You should eat no more than 2,300 mg of sodium per day or no more than 1500mg if you have high blood pressure, kidney disease, diabetes are African American or are over 51.*

9. It is safe for children to eat as much of any kind of fish they want.

*FALSE.*

*Children should limit fish high in mercury. Too much mercury can affect their growth and development. They should follow the same recommendations for pregnant and nursing women. Eat low mercury fish like salmon. Avoid fish that are high in mercury like shark, swordfish, tilefish and king mackerel. Eat no more than 2 ounces a week of fish caught in local waters and no more than 6 ounces of canned tuna a week.*

10. People who dislike eating fish can get the amount of Omega-3s they need by taking fish oil pills.

*TRUE!*

*People who dislike eating fish can get Omega-3s from fish oil pills. But, these pills do not have the protein, vitamins or minerals you get from eating fish. You should always ask your health care professional before taking any pill especially people with fish allergies.*

11. Eating fried fish sandwiches like the ones at McDonalds is a great way to add fish to your diet.

*FALSE.*

*Fish sandwiches like the ones served at McDonalds are made from either Pollock or cod. These fish do not have a lot of fat or Omega-3s. They are also fried and often topped with tartar sauce or cheese. These sandwiches are usually high in bad fat, sodium, and Calories and should be eaten only once in awhile.*

12. It is safe to eat fish and other seafood that your friends caught in a nearby river.

*It Depends -*

*Tell the class that this statement is neither True nor False, This will depend on the type of fish and other seafood and where it comes from. Some fish caught by friends and family may be high in mercury and pollutants. Check local guidelines before you go fishing to find out which fish are high in mercury and pollutants.*

*The guidelines can be found at: <http://www.state.nj.us//dep//dsr//njmainfish.htm>. Some fish you and your friends catch may be okay to eat. Other fish should be eaten less often or not at all.*

Note to educator: Write this website on the board for anyone who is interested. Tell this website is also on the handout you will give them at the end of class. Tell them they can get a pamphlet from this website which will give them more specific recommendations for their area.

**NOTE TO EDUCATOR. The remaining information is for you and does not all need to be shared with the participants. You may want to print the part of the brochure mentioned above that applies to the waters in the area where your participants live so you can answer specific questions for your participants. It is not necessary to discuss or bring the whole brochure with you to class.**

*You can use the information below. It has guidelines for mercury and pollutants for most of the places people fish in New Jersey. You can share the information from the area where your participants live if they ask specific questions about fishing in their area or about specific fish.*

We have summarized some of the information found in the brochure below:

FOR GENERAL POPULATION (NOT HIGH RISK INDIVIDUALS)

Barnegat Bay at Manahawkin Bay:

*1 meal per week for:*

- Weakfish

Lower (Tidal) Delaware River:

*1 meal per year for:*

- American Eel
- Channel Catfish

*4 meals per year for:*

- Striped Bass
- White Perch

*1 meal per month:*

- White Catfish

Pinelands Area:

*1 meal a week for:*

- Sunfish
- Yellow bullhead
- Brown bullhead

*1 meal a month for:*

- Largemouth bass
- Chain pickerel

Coastal Area:

*1 meal per week for:*

- Summer Flounder
- Weakfish

*1 meal per month for:*

- Blue fish less than 6 pounds or 24 inches
- Striped Bass

*4 meals a year for:*

- American eel
- Striped bass
- Bluefish that is more than 6 pounds or 24 inches

**DO NOT EAT:**

- American Lobster – do not eat the green gland

Newark Bay Complex:

*4 meals per year for:*

- Striped Bass

*1 meal per year for:*

- White Catfish

***DO NOT EAT OR CATCH:***

- Blue claw crab
- American Eel
- White Perch

Raritan Bay Complex

*1 meal per week for:*

- American Lobster – do not eat green gland
- Summer Flounder

*1 meal per month for:*

- Weakfish
- Striped Bass
- Winter Flounder
- Porgy
- 7 crabs per month – do not eat green gland

*1 meal per year for:*

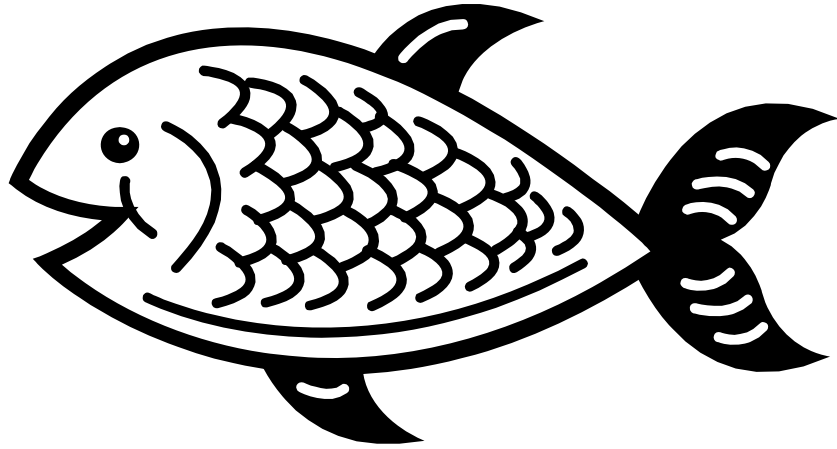
- American Eel
- White Perch (Raritan Bay)

Inland Freshwater Areas

*1 meal a week for:*

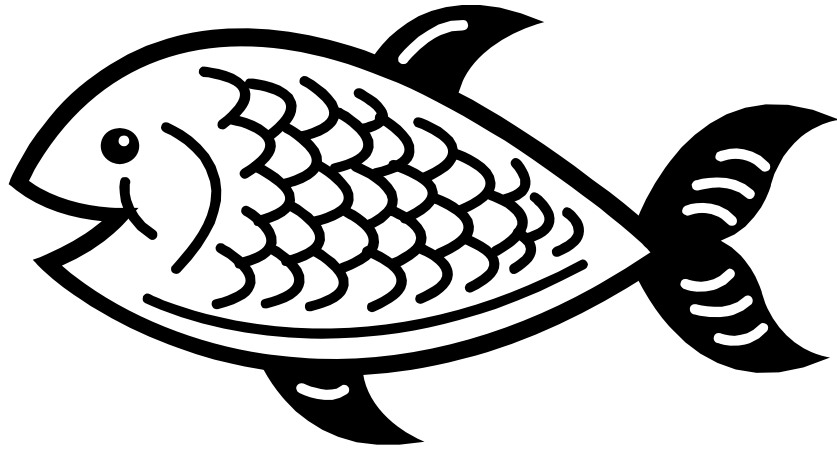
- Chain pickerel
- Smallmouth bass
- Largemouth bass
- Trout (Brown, Brook, Rainbow)





**GO FISH!**

**TRUE**



**GO FISH!**

**FALSE**

# Salmon Dip Option 1

**Serving Size:** 1/4 cup

**Recipe Makes:** 6 servings

**Prep Time:** 10 minutes

**Cooking Time:** none

**C** means cup    **T** means tablespoon    **t** means teaspoon    **oz** means ounce

## What you need:

- 7.5 oz can chilled pink salmon
- 2 T minced green onion
- 1/4 C plain low-fat yogurt
- 1/4 C low-fat mayonnaise or salad dressing
- 1 T dill
- Hot sauce (optional)



## What to do:

1. Wash your hands.
2. Drain the can of salmon.
3. Take a fork and break apart the salmon.
4. Mix the salmon, with the yogurt, mayonnaise, and dill
5. Serve the dip cold with whole wheat crackers or veggie sticks or things you use to dip.

## Nutrition Facts

| Amount Per Serving        |                  | 1/4 cup              |
|---------------------------|------------------|----------------------|
| Calories 90               |                  | Calories from Fat 60 |
|                           |                  | %Daily Value*        |
| <b>Total Fat</b>          | 6g               | 9%                   |
|                           | Saturated Fat 1g | 5%                   |
| <b>Cholesterol</b>        | 25mg             | 8%                   |
| <b>Sodium</b>             | 220mg            | 9%                   |
| <b>Total Carbohydrate</b> | 2g               | 1%                   |
|                           | Dietary Fiber 0g | 0%                   |
|                           | Sugar 1g         |                      |
| <b>Protein</b>            | 7g               |                      |
| <b>Vitamin D</b>          | 0%               |                      |
| <b>Calcium</b>            | 8%               |                      |

\*Percent Daily Values are based on a 2,000 calorie diet.

FK: 1.2; 5/2/13

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# Salmon Dip Recipe Option 2

**Serving Size:** 1/4 cup

**Prep Time:** 10 minutes

**Recipe Makes:** 6 servings

**Cooking Time:** none

**C** means cup    **T** means tablespoon    **t** means teaspoon    **oz** means ounce

## What you need:

- 7.5 oz can chilled pink salmon
- 1 T fresh or 1/2 T dried parsley or chives
- 1/2 C low-fat mayonnaise or salad dressing
- 1/2 C plain non-fat or low-fat yogurt
- 1/4 C cottage cheese
- Hot sauce (optional)



## What to do:

1. Wash your hands
2. Drain the salmon
3. Break apart salmon in a bowl.
4. Add the herbs, mayonnaise, yogurt, and cottage cheese.
5. Serve with whole wheat crackers or veggie sticks or your favorite thing to dip.

## Nutrition Facts

|                              |                      |
|------------------------------|----------------------|
| <b>Amount Per Serving</b>    | 1/4 cup              |
| <b>Calories</b> 140          | Calories from Fat 90 |
|                              | <b>%Daily Value*</b> |
| <b>Total Fat</b> 10g         | 15%                  |
| Saturated Fat 2g             | 10%                  |
| <b>Cholesterol</b> 30mg      | 10%                  |
| <b>Sodium</b> 330mg          | 14%                  |
| <b>Total Carbohydrate</b> 3g | 1%                   |
| Dietary Fiber 0g             | 0%                   |
| Sugar 3g                     |                      |
| <b>Protein</b> 9g            |                      |
| <b>Vitamin D</b>             | 0%                   |
| <b>Calcium</b>               | 10%                  |

\*Percent Daily Values are based on a 2,000 calorie diet.

FK=1.7; 5/2/13

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# Salmon Burgers

**Serving Size:** 1 patty

**Recipe Makes:** 6 patties

**Prep Time:** 10-15 minutes

**Cooking Time:** 10 minutes

**C** means cup    **T** means tablespoon    **t** means teaspoon    **oz** means ounce

## What you need:

12 oz can of salmon in water

2 eggs

1 cup breadcrumbs

Your favorite seasoning

1/2 C finely chopped onions

Cooking spray

6 hamburger rolls

## What to do:

1. Wash your hands
2. Open and drain salmon.
3. Place in a bowl.
4. Crush bones until you cannot see them.
5. Add eggs, onions and breadcrumbs to bowl.
6. Mix well. Season to taste with your favorite seasonings.
7. Divide mix into 6 patties.
8. Spray pan with just enough cooking spray to coat the bottom.
9. Place frying pan on a stove burner set on medium heat or set an electric skillet at about 350°F.
10. Let the pan or skillet heat up and cook the patties for 5 minutes on each side or until they brown.
11. Serve on hamburger rolls. Use a whole wheat bun for extra health benefits.



## Nutrition Facts

| Amount Per Serving        |                    | 1 patty                  |
|---------------------------|--------------------|--------------------------|
| Calories                  |                    | 310 Calories from Fat 80 |
|                           |                    | %Daily Value*            |
| <b>Total Fat</b>          | 8g                 | 12%                      |
|                           | Saturated Fat 1.5g | 8%                       |
| <b>Cholesterol</b>        | 105mg              | 35%                      |
| <b>Sodium</b>             | 600mg              | 25%                      |
| <b>Total Carbohydrate</b> | 35g                | 12%                      |
|                           | Dietary Fiber 2g   | 8%                       |
|                           | Sugar 4g           |                          |
| <b>Protein</b>            | 22g                |                          |
| <b>Vitamin D</b>          | 55 %               |                          |
| <b>Calcium</b>            | 15%                |                          |

\*Percent Daily Values are based on a 2,000 calorie diet.

FK=3.8; 5/2/13

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# Salmon Burgers

**Serving Size:** 1 patty

**Recipe Makes:** 3 patties

**Prep Time:** 10-15 minutes

**Cooking Time:** 10 minutes

**C** means cup    **T** means tablespoon    **t** means teaspoon    **oz** means ounce

## What you need:

6 oz canned salmon in water

1 egg

1/2 C breadcrumbs

1/4 C finely chopped onions

Your favorite seasonings

Cooking spray

3 hamburger rolls



## What to do:

1. Wash your hands
2. Open and drain salmon.
3. Place in a bowl.
4. Crush bones until you cannot see them.
5. Add eggs, onions and breadcrumbs to bowl.
6. Mix well. Season to taste with your favorite seasonings.
7. Divide mix into 3 patties.
8. Spray pan with just enough cooking spray to coat the bottom.
9. Place frying pan on a stove burner set on medium heat or set an electric skillet at about 350°F.
10. Let the pan or skillet heat up and cook the patties for 5 minutes on each side or until brown.
11. Serve on hamburger rolls. Use a whole wheat bun for extra health benefits.

## Nutrition Facts

| Amount Per Serving        |                    | 1 patty              |
|---------------------------|--------------------|----------------------|
| Calories                  |                    | 310                  |
|                           |                    | Calories from Fat 80 |
|                           |                    | %Daily Value*        |
| <b>Total Fat</b>          | 8g                 | 12%                  |
|                           | Saturated Fat 1.5g | 8%                   |
| <b>Cholesterol</b>        | 105mg              | 35%                  |
| <b>Sodium</b>             | 600mg              | 25%                  |
| <b>Total Carbohydrate</b> | 35g                | 12%                  |
|                           | Dietary Fiber 2g   | 8%                   |
|                           | Sugar 4g           |                      |
| <b>Protein</b>            | 22g                |                      |
| <b>Vitamin D</b>          | 55%                |                      |
| <b>Calcium</b>            | 15%                |                      |

\*Percent Daily Values are based on a 2,000 calorie diet.

FK=3.8; 5/2/13

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# Quick Tuna Casserole

**Serving Size:** 1 C

**Prep Time:** 20 minutes

**Recipe Makes:** 12 servings

**Cooking Time:** 15 minutes

**C means cup    T means tablespoon    t means teaspoon    oz means ounce**

## What you need:

- 1 pound Egg Noodles
- 10 oz can cream of mushroom soup
- 1/3 C nonfat milk
- 15 oz canned light tuna in water, drained
- 1 cup of frozen green peas
- 1 t salt
- 1+1/2 t pepper



## What to do:

1. Wash your hands
2. Preheat the oven to 325°
3. Boil 4 quarts of water for pasta
4. Mix together milk, tuna, cream of mushroom soup, salt and pepper in a bowl.
5. Follow the directions on the box to cook the pasta
6. Run peas under cold water for 20 seconds to defrost them
7. Add the peas to the tuna mix
8. Drain the pasta and add it to the tuna mix
9. Bake the mix in a baking dish for 15 minutes to heat it through.
10. Serve and enjoy!

## Nutrition Facts

| Amount Per Serving        |                    | 1 cup                       |
|---------------------------|--------------------|-----------------------------|
| Calories                  |                    | 210    Calories from Fat 25 |
|                           |                    | %Daily Value*               |
| <b>Total Fat</b>          | 3g                 | 5%                          |
|                           | Saturated Fat 0.5g | 3%                          |
| <b>Cholesterol</b>        | 60mg               | 20%                         |
| <b>Sodium</b>             | 390mg              | 16%                         |
| <b>Total Carbohydrate</b> | 30g                | 10%                         |
|                           | Dietary Fiber 2g   | 8%                          |
|                           | Sugar 2g           |                             |
| <b>Protein</b>            | 15g                |                             |
| <b>Vitamin D</b>          | 0.5%               |                             |
| <b>Calcium</b>            | 2%                 |                             |

\*Percent Daily Values are based on a 2,000 calorie diet.

FK=3.6; 5/2/13

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# FRESH FISH



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# SHELL FISH





# SHELL FISH



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