May 2011

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Eating Fish

by Nadine Meyer, Newsletter Editor

In this issue of MinnAqua Moments, many of the articles focus on preparing and eating fish. You may want to start off this issue with **Thinking Inside-Out!** to help you wrap your mind around the idea of following up a fishing program with filleting and cooking the very fish your students catch. The **Species Profile** features the Bluegill, an easy target for young anglers that provides a tasty treat when cooked.

This month's **Piers & Places** article gives resources on where to find a good fishing spot and how to determine which fish are best to catch for eating. This issue's **Book Reviews** highlight cookbooks and recipes for cooking up fish and the **Fishing Equipment and Tips** article gives advice on how to fillet a fish. Our **Featured Lesson**, **Lesson 6:5 - Eating Fish!** highlights our lesson that helps youth understand the health benefits and how to assess the risks of dining on fish regularly. The **Angling for a Laugh** article closes out this month's theme with a first-person point of view on what it takes to get kids to choose healthy foods, like fish, over the more tantalizing and tempting treats filled with sugar or fats.

Finally, **Mentoring & MinnAqua** features one mentor's perspective on how he's worked with youth to learn about the joys of fishing.

In This Issue

MinnAqua Program receives national recognition

Since its inception over 20 years ago, the MinnAqua Program has strived to provide the best programming and education materials focused on aquatic resources and fishing to the citizens of Minnesota. Recently, the MinnAqua Program staff were recognized for their efforts by the **American Fisheries Society** (AFS), the world's largest fisheries organization. In April 2011 the MinnAqua Program staff were recognized for receiving the **2010 Sport Fish Restoration Outstanding Project Award** in the aquatic education program category for their production of the MinnAqua ***Fishing: Get in the Habitat!*** curriculum and ***MinnAqua Moments eNewsletter***.

“The curriculum and newsletter are tools that help us accomplish our mission with help from others,” said Jenifer Wical, MinnAqua program supervisor.

The educators that use our curriculum say it best; a great example of how a school has integrated MinnAqua into their school culture is highlighted in our **School Spotlight**.

Featured Lesson

Lesson 6:5 - Eating Fish

by Roland Sigurdson

May 2011

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Chapter 6 of the MinnAqua Leader's Guide - ***Fishing: Get in the Habitat!*** focuses on activities and outcomes that are possible because of the knowledge and skills gained in the first five chapters. **Lesson 6:5 – Eating Fish** is the last lesson in Chapter 6.

There is probably no image that represents Minnesota fishing better than a campfire and a frying pan of fish fillets being prepared for a shore lunch. It's just one of those 'all is right with the world' moments that many of us have experienced or can at least relate too.

After a beautiful day on the water, your new found skills in casting, tackle selection and understanding of fish preference for particular habitat, your reward is a stringer of sunfish or trout or walleye or catfish. The table is set and the fillets smell incredible. Should you eat them? What about mercury? What about omega-3 fatty acids? What are the risks? What are the benefits?

Download the Lesson PDF

Lesson Summary

According to the Minnesota Department of Health, "Most fish are healthy to eat and fish are an excellent source of low-fat protein. Eating fish may also reduce the risk of heart disease, diabetes and other chronic illnesses." However, we also know that pollution in lakes, rivers, and streams can accumulate in the flesh of fish. Fish containing pollutants may pose some risk to people, but we can make informed choices about balancing the risks and benefits of eating them. What should you do? The first step is to gather information and assess it to make the best determination of the risks for you and your family. Studies show that the benefits of eating fish outweigh the risks as long as the fish are low in contaminants or you moderate the amount of fish consumed.

The final activity in the lesson involves filleting/dissecting one or more fish. The 'grossology' factor makes this activity of tremendous interest to students. The cooking lesson is a great way to bring the fishing experience full circle…and full tummy too!!

Tips & Tricks

- Part 1 of the lesson can be done with any material that is light and easy to clean up. Popcorn works great, unless you're outside and the grass is wet. Then it's a mess.
- You can really make this lesson personal to the student during Part 2 of the lesson. The **fish consumption advisories** developed by the **Minnesota Department of Health** are linked to the **DNR Lake Finder** so students can acquire real time consumption advisories for their favorite lake(s). It's bound to raise some interesting personal questions and discussions that can

move from the classroom to their own dinner table.

- This lesson will require some lead time on your part to acquire a fish or two for the filleting demonstration. Local fisherman are often most willing to help out. “I gotta go fishing..it’s for the kids” might be the best excuse you could hand a volunteer or parent.
- If you can’t acquire enough fish for a taste for everyone, you can always get some from a local fish market or grocery. I’ve found catfish ‘nuggets’ that are boneless and already cut up into servable pieces available in several stores. (Disclaimer: there is really no such thing as boneless, so tell your students to eat carefully.)
- If filleting is a challenge for you, this is a great time to invite in a guest instructor. Parents, grandparents and local fishing/hunting clubs are great places to seek out filleting volunteers. They might even bring the fish. You can also use the step-by-step instructions and videos found in this issue's **Fishing Equipment & Tips** article as a guide.

Diving Deeper

Cooking fish with your students can be a very rewarding culminating activity to your fishing program. Check out this newsletter's **Book Reviews** for cookbook ideas and our **Fishing Equipment & Tips** article for guidance on how to fillet a fish.

Here are some online recipies:

- BEST Easy Fried Fish Fillet Recipe **You Tube Video** - 4 min - Aug 11, 2009 - Uploaded by **HowToExpo** on Aug 11, 2009. Easy Fish Fillet Recipe that can be used with any white fish. **Print Ingredients** Very easy to prepare and make.
- Take Me Fishing – **Eating/Cooking Your Fish**

MinnAqua Lesson Connections

This lesson can be a great way to wrap-up a fishing trip with your group. Use **Lesson 6:1 - Safety and Fishing at the Water's Edge** PDF (37 pages | 3.5 MB) to kick off the day. Next try **Lesson 6:4 - Piscatorial Palate** PDF (14 pages | 1.1 MB) where the students try out various baits (some traditional, some creative) and gather data on catch rates for the various baits to be analyzed later.

In order for students to be ready to incorporate the objectives of this lesson into their knowledge base, it is good to teach one or two lessons from Chapter 3 Water Stewardship. If you check out the thread for Pollution in the **Topics Matrix** PDF (3 pages | 182 KB), you’ll see that **Lesson 3:4 - Would You Drink This Water?** PDF (18 pages | 2.0 MB), **Lesson 3:5 - The Lake Game** PDF (25 pages | 2.3 MB), and **Lesson 3:6 - Macroinvertebrate Mayhem** PDF (23 pages | 2.3 MB) will all help your students build base-line knowledge of how pollution/contaminants get into the aquatic environment and how they can help to reduce those contaminants.

NEW: Suggested Online Student Resources

Have your students access these online resources to engage in these concepts further.

US EPA Eating Fish Kids Pages

MN DNR Kids Fishing Page

Species Profile **

Closeup on the Bluegill

by Scott Moeller

May 2011

Download this article PDF

Bluegill:

Lepomis macrochirus: Lepomis (lehp-OH-miss) from the greek, meaning “scaled gill cover” *macrochirus* (MACK-row-KY-russ) from the greek meaning “large hand” referring to the shape of the body

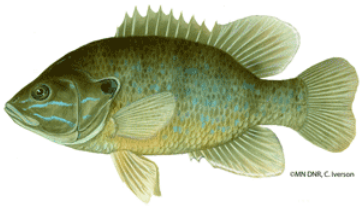
Bluegill

Introduction

Bluegills are common inhabitants of ponds, lakes and slow-moving rivers across most of the state (they are less common in the Lake Superior watershed of the northeast). They are some of the most widespread fish in Minnesota, and their relative ease of catching mean bluegills are often the first fish caught by beginning anglers. They are a favorite target species of many shore and pier anglers, and are caught for fun as well as for a flavorful meal.

Identification

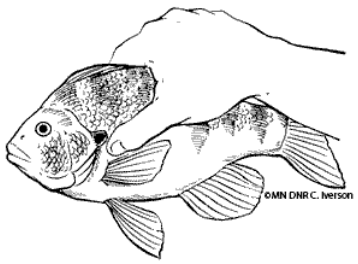
A member of the very large **sunfish family**, bluegills frequently interbreed with other members of this family, making hybrids somewhat confusing to identify. Like all members of the sunfish family, bluegills have a very round, pan-shaped profile. True bluegills are the largest of the Minnesota sunfish, growing to 4 to 8 inches in length and a half pound in weight on average.



Green Sunfish

Perhaps its most distinguishing feature is the dark blue tab or “ear flap” at the rear edge of the gill cover. Bluegills tend to be mostly olive-colored with a powder-blue throat, although their coloration can vary considerably between individuals. Other sunfish members that could be confused with bluegills include pumpkinseeds, green sunfish and orangespotted sunfish. Check out **Lesson 2:3 – Fish Families** PDF to learn more about fish identification.

Pumpkinseed



Holding a bluegill safely

Handling

Small and toothless, bluegills are easily handled by either smoothing down the sharp dorsal spines before grasping the fish, or by grasping the lower lip and allowing the fish to hang vertically. See **Lesson 6:1 – Safety and Fishing at the Water’s Edge** PDF for instruction on safe fish handling.

Food

Bluegills have relatively small mouths, and feed mostly on aquatic insects, snails, and other small invertebrates. Young bluegills feed among aquatic plants or beneath the pier for protection, while larger bluegills may feed on plankton in open water.

Reproduction

Bluegills spawn primarily in May, but can also spawn all the way to August if conditions warrant. Male bluegills thrash vigorously in shallow water to hollow out a bowl-shaped nest (also called a "redd") in the sand or gravel bottom. In some locations, several dozen nests may be clustered together. The female lays upwards of 50,000 eggs in the nest and the male fertilizes, then guards, the nest.

A bluegill redd with eggs

Predators

Young bluegills have many predators. Both large and small bluegills are wary of larger fish like northern, muskies, walleye, and bass. Bluegills are also eaten by other animals like herons and kingfishers, snapping turtles, otters, and (of course) humans.

Tackle and Fishing Tips

Spawning bluegills protect their nests aggressively and attack anything that comes near, often making them easy to catch in the springtime. When not spawning, bluegills can be found among shoreline vegetation or around the pylons of a fishing pier where they spend their time in loosely-knit groups of 20-30 individuals. They can be enticed with a piece of nightcrawler on a small hook with lightweight (6 lb) line. Bluegills seem to be curious, and can sometimes be attracted by lightly “splashing” your bobber on the water’s surface next to the pier. Although they feed all day, the best bluegill fishing is usually in the morning or evening. Because they do not see well in low light, bluegill fishing is poor after dark. See the **"Selecting a Lure" article** if you want to try using a lure to catch bluegills.

Preparation for Cooking

Because they eat mostly invertebrates and are closer to the bottom of the food chain, the accumulation of toxins is largely not a concern in bluegills and they can be eaten frequently. Bluegills are very easy to fillet and can be cooked in a number of ways. See the May 2011 **Fishing Equipment and Tips** article on filleting fish and May 2011 **Thinking Inside-Out!**, **Book Reviews** and **Piers & Places** articles on catching and eating fish.

Fun Facts

- Most kids just call them “sunnies,” but bluegills go by lots of different names including: “coppernose,” “blue sunfish,” “bream,” “blue joe,” and “baldface.”
- Smaller male bluegills are known to stage fertilization “sneak attacks” during spawning season. They sneak past the male guardian of newly-deposited eggs, fertilize the eggs, then dart away to avoid all parenting duties.
- The state record bluegill was 2 pounds and 13 ounces, caught in 1984 in Hubbard County. See the MN **DNR state record fish** site for more fish records.

Fishing Equipment & Tips

Filleting Your Catch

by Nadine Meyer, video links provided by Michelle Kelly

May 2011

Download this article PDF

Fishing has many rewards - relaxing, spending time with friends & family outdoors, fodder for great stories, and the opportunity to provide yourself and your family with fresh food that you harvested. I have many great memories from childhood that include learning how to fillet my own fish, the smells of fresh fish cooking over the campfire, and the oneness with my entire family as we all enjoyed our first bite of the day's fresh catch. Even my sister, who won't eat fish from a restaurant, will eat a freshly cooked fillet of our catch of the day.

Cleaning your fish properly is key for a successful dinner later on. Using proper filleting techniques will help you reduce bones in your fillets and make the fillets healthier by removing areas that may contain pollutants the fish pick up from feeding in our lakes & rivers.

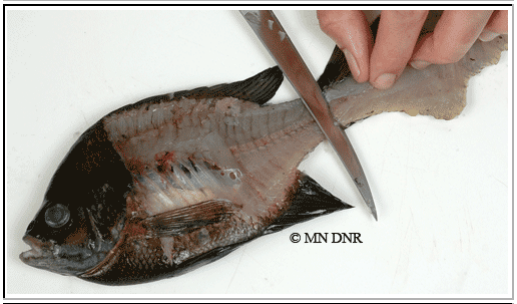
Lesson 6:5 - Eating Fish PDF (28 pages | 5.2 MB), our **Featured Lesson** for this newsletter includes information on how to determine the benefits and minimize the risks of eating contaminants by eating fish. This lesson also includes step-by-step instructions on how to fillet sunfish which is outlined below.

Teaching yourself and your children how to fillet fish will take time and practice. Here are some tips on how to do this safely & successfully.

- Use a sharp filleting knife - dull knives make filleting more difficult and dangerous
- Start out with small fish like sunfish or yellow perch
- Plan that your first fillets may not provide much for a meal, but celebrate your filleting success regardless of the size of the final fillet
- Be sure to cut away from yourself - be diligent about reminding your children to keep the sharp side of the blade pointed away from their hands, arms, & bodies
- Getting messy is OK! Cleaning fresh fish is messy, use gloves if you choose and roll up your sleeves, fillet outdoors if the weather is nice.
- Allow yourself and your kids to take time to look at the insides of the fish. Point out the gills, look for the air bladder and stomach. Some fish will have eggs. **Lesson 6:5 - Eating Fish** PDF (28 pages | 5.2 MB) includes a diagram of the internal anatomy of a yellow perch. Use the diagram as a guide to identify the internal organs as you fillet.

Filleting a Bluegill

Start out with a sharpened fillet knife, clean cutting surface, and your rinsed fish. If you are using a reusable cutting board, be sure to label it for fish. *Preparing different meats & vegetables on the same cutting board may transfer bacteria that need to be cooked away at different temperatures.*	
Raise the pectoral fin. Lay the knife just behind the fin and head. Cut through the body cavity to the backbone.	
Slice along the backbone with the point of the blade from your first cut all the way to the tail. This cut does not need to be very deep, this will start the separation of the meat from the ribs.	
Hold the fish firmly. Turn the blade nearly parallel to the backbone and with a sawing motion, cut through the rib section toward the tail. You will feel the ribs with the blade, they will release from the flesh as you gently pull the fillet away from the blade.	

Stop at the base of the tail, it is best not to cut the fillet all of the way off.	
To skin the fillet, hold the tail firmly with your fingertips and work the flat of the blade forward between the flesh and the skin using a sawing motion.	
Set your fillet aside and flip the fish over to repeat the process. Cut away the dark are running the length of the fillet (this isn't always as visible in all species). To do this, cut a V-shaped trough around the length of the dark line and remove it by using your fingers. This is an area of fatty tissue that may store contaminants. Cut off any other fatty areas on the back and belly sides of the fillet - they will be darker in color than the rest of the fillet.	

Different species of fish require slightly different filleting techniques. Here are some videos demonstrating how to fillet different species of fish commonly caught in Minnesota.

- Take Me Fishing – **Cleaning Your Fish**
- Take Me Fishing – **Storing Your Fish**
- **How To Fillet Fish** - Filleting Walleye Learn how to safely fillet fish with children in this step by step tutorial
- **Just North Outdoors** - In these videos you will learn how to clean your catch. Fillet Nothern Pike boneless, fillet Walleye boneless, and see how to clean a perch in 10 seconds.
- **Cleaning Catfish**
- **How to Fillet Panfish** with Muskie Mike

Piers & Places

Knowing Where to Fish and When to Keep Your Catch

By Nadine Meyer

May 2011

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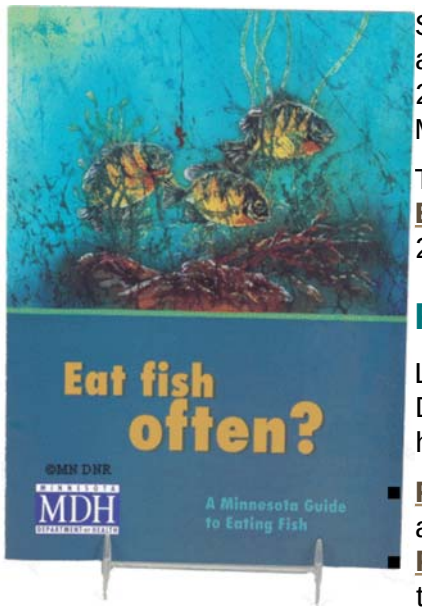

Shorefishing in Minnesota can be a great family outing and can provide a tasty meal as well. With 5,493 fishable lakes containing approximately 290 fishing piers and 3000 public water accesses, most citizens of Minnesota have access to shorefishing close to home.

To learn about how to fillet fish go to the **May 2011 Fishing Equipment & Tips** article. For cooking & recipe ideas go to the May 2011 **Book Reviews** and **Featured Lesson** articles.

Finding Where to Fish

Locating a family fishing spot may seem a bit daunting at first. The MN DNR Website provides a variety of maps and locator tools to help you hone in on a new location to begin or continue a family tradition.

- **Find a Fishing Pier** - an A-Z Statewide list of Fishing Piers & Platforms, also has a link to the **Statewide Fishing Pier Map** as a PDF
- **Public Water Access County Maps** - county maps and links to PDFs of the county maps.
- **Public Water Access Main Page** - Links to a variety of sources for finding local water access and safety & fishing information
- **Water Access Mobile App** - locate public water accesses using your mobile phone

Knowing What to Keep

Once you've located your fishing hole you may have questions about what fish can be kept and what is safe to eat. The Minnesota Fishing Regulations are updated annually, including special regulations, and can be found online as well as in print. Special fishing regulations are also posted at all public accesses to help keep anglers informed. The Minnesota Department of Health provides **guidelines for eating fish** and has information on the types of pollutants that can be found in fish.

Minnesota Fishing Regulations - provides current information on statewide limits, **special regulations**, and other fishing laws

Lake Finder - a one-stop website that provides detailed information about fishable lakes in Minnesota, including links to specific fish consumption guidelines for each lake. The Lake Finder also includes links to lake maps, water quality data, and fisheries surveys of the lake.

Lake Finder Mobile App - Access all of the data in Lake Finder on your mobile phone

MN Dept. of Health - Mercury - information about Mercury in Minnesota and health impacts

Fish Consumption FAQ - MN Dept. of Health's FAQs about fish consumption and contaminants

Book Reviews

Cooking and Eating Fish

by Nadine Meyer

May 2011

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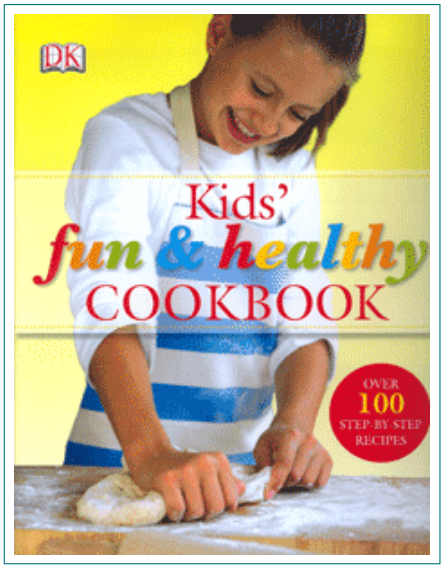


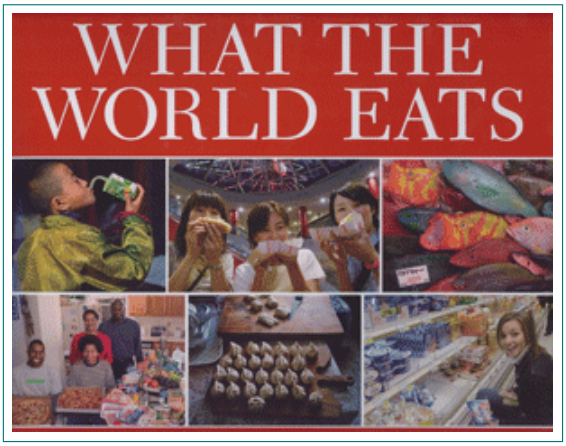
Kids' Fun & Healthy Cookbook, 2007

by Nicola Graimes, DK Publishing
Grades: PreK-4 ISBN: 9780756629168

This fully illustrated cookbook gives clear step-by-step instructions on recipies and clearly notes which steps must be completed by adults for safety or other reasons. This cookbook also gives nutritional background information on a variety of foods; fish and Omega-3 fats can be found on pages 13-15. This cookbook provides 5 recipies for cooking with fish.

Available in hardcover.

What the World Eats, 2008



by Peter Menzel and Faith D'Aluisio, Tricycle Press
Grades: 5-9 ISBN: 9781582462462

This book contains eye opening statistics, background, and cultural connections to food consumption around the world. Beautiful photographs enhance the stories and facts that are interspersed with recipies provided by the families that are highlighted from twenty one countries.

Available in hardcover.

Cleaning and Cooking Fish, the complete guide to preparing delicious freshwater fish, 1999

By Sylvia Bashline, Creative Publishing International, Inc.
Grades: 8 and up ISBN: 0865730962

"If you want to learn how to prepare fish like an exptert, this book is for you. It doesn't matter whether you purchase trout from the grocery store or catch a basket of bluegills from your favorite pond, this book teaches you the best methods for successfully cleaning and cooking your fish. Nutritional information and over 325 color photographs complement 120-plus recipies." ~ The Freswater Angler

Available in hardcover.

School Spotlight

Minnewaska Elementary School 5th graders get fishing experience in the classroom and on the ice

by Pope County Tribune, Glenwood, MN and Nancy Koep, Koep's Bait & Tackle

May 2011

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The entire fifth-grade class at **Minnewaska Elementary School** spent a few hours ice fishing on Lake Minnewaska after the students completed a nine-week environmental science unit using the **MinnAqua Fishing: Get in the Habitat!** curriculum, created by the Minnesota Department of Natural Resources **MinnAqua Program**.

Nancy Koep, local outdoor enthusiast who was trained on the MinnAqua curriculum taught the class with help from fifth-grade science teacher Dyanne Parsons. The purpose of the MinnAqua program is to give students an understanding of native ecological systems in Minnesota; to help students understand the cause and effect relationships between human attitudes, behavior and the environment; and to enable students to become ambassadors of natural resource awareness. Koep also solicited area and state businesses to provide fishing equipment for the students and found adult volunteers to drill holes on **Lake Minnewaska** and to provide help with fishing techniques. There were 78 students who took part in the fishing day on Friday, March 4, and the students caught 17 fish between 11:30 a.m. and 2:30 p.m. One student had a northern on the line but lost it before it could be pulled through the hole.

Minnewaska Elementary School youth fishing on Lake Minnewaska. photo by Tim Douglass, Pope Co. Tribune Publisher

A special Thank you...

A very special “Thank You” goes out to all my sponsors and volunteers for making this event possible. Without the help from the following organizations the kids would not have been able to spend the day outdoors and enjoy one of our many natural resources. Thank you to: Minnewaska Lake Association, Northland Fishing Tackle, NPAA–National Professional Anglers Association, Lowry American Legion, Glenwood Fire Department, St. Croix Rods, Minnkota and Humminbird, Minnewaska Area PTA, Lowry Lions, Glenwood American Legion, Cannon Tackle, Hoplin-Hitchcock Funeral Home, PC MOCH, Inc., Lowry Fire Department, Tom’s Food Pride, Pure Fishing, Eagle Bank, Glenwood Lions, WASP, Lowry State Bank, Hilltop Lumber, Hunts Resort, Steve Entzi’s shop class, JB Lures, Urbank Bait Company, Clam Corporation, Old Dutch Foods, and Koep’s.

–Nancy Koep

Mentoring & MinnAqua

Helping Nature Take its Course

by Michael Kurre, Mentor Coordinator

May 2011

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Proud young Willie and his trout

A sure sign of spring is open-water fishing and, in this month's Mentoring and MinnAqua, independent outdoor writer and trained outdoor mentor Mark Strand shares his expertise and words of wisdom on mentoring and angling in the outdoors.

Mark's body of work includes the book, *Paint the Next Sunrise*, where he asks the question: "Are fishing, hunting, and shooting destined to gradually die away, victims of modern society and an altered landscape?" In *Paint the Next Sunrise: A Future for Hunting and Fishing,* the founder of the "School of Outdoor Sports" (an online school that teaches the secrets to success in fishing, hunting and shooting) suggests that we have two choices: preside over the sunset of these great outdoor traditions, or paint the next sunrise for them...

Helping Nature Take its Course

by Mark Strand

The march of civilization and tide of technology have combined to cram people close together and pin them indoors, more all the time, to the point that participation studies tell us we don't go fishing enough. Like we need a study to tell us that.

We are worried, and rightly so, that today's kids are growing up without a connection to the natural world, to waters and fishing. But in predictable modern fashion, we tend to focus on what we have to do to "hurry up and fix the situation," rather than helping nature take its course. Kids are naturally curious, they love to explore. They become anglers–if it's meant to be–when they catch fish early on, then are allowed to make their own connections, on their own timetable.

At the risk of sounding like a wedding ceremony, outdoor mentoring is selfless, and kind.

It's easy to lose control over our own love of fishing, to let our hopes that others will love it trample what should be a natural process between fish, water, and kids. Lead youngsters to the water, but don't coerce them into a relationship with it that's a mirror image of yours. There's too much talk about "what we have to do to get kids into fishing," when the answer is simple.

Take them fishing, help them catch fish, then get out of the way. Let them come to it on their own, and the bond will be genuine and everlasting.

The degree of instant connection, the amount of self-propelled drive, varies greatly from one child to the next. As mentors, we have to focus on each newcomer or we'll miss the signs that tell us what approach would be best.

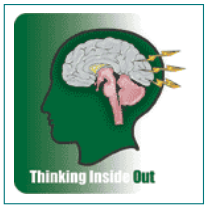
Fishing can have a bright future, but we have to teach kids how to catch fish, while at the same time resisting the temptation to cram the hook down their throats.

Mark Strand is president and founder of the nonprofit "School of Outdoor Sports," where beginners and mentors learn the basics of fishing, for free. Visit http://www.learnoutdoorsports.org/ for more information.

P.S.

- Don't forget **Take a Kid Fishing** weekend is June 10-12, 2011. The idea behind these three "free" days of fishing is to introduce children and even some adults to one of the state's most popular outdoor activities. During **Take-A-Kid Fishing Weekend**, anglers 16 and older do not need a license if they are accompanied by a child younger than 16 and are actively participating.
- **DNR Outreach** is the site for more information on outdoors opportunities for youth.
- Email **Mike Kurre** if you are interested in a monthly update of activities that are happening in the outdoors across the state like the following:
  - Outdoor organization's seminars, clinics, expo's and contact information
  - Fishing and other outdoors season openers
  - Minnesota State Parks hands-on programs and special events
  - Where to find outdoors programming and educational information on TV, radio, magazines and web sites
  - Outdoors mentoring organizations and youth camps
  - You can always "drop me a line" to help you find area experts in outdoor recreational activities to help you in the classroom.

Thinking Inside-Out!



We Are What (and *How*) We Eat

by Michelle Kelly

May 2011

Download this article PDF

Everyone knows eating fish is good for you. With ***Fishing: Get in the Habitat!*** **Lesson 6:5 – Eating Fish** PDF , students learn that as part of a balanced and healthy diet, fish provide important nutrients, such as Omega-3 fatty acids and protein that prevent disease, promote development of and support healthy nervous systems, and keep people strong. Even so, it's no secret that most kids will probably prefer to eat fast food burgers, pizza, sodas, and anything endorsed in a commercial by the latest media icon. So, *how* do you get kids to eat fish?!

Food is More Than Nutrients

Introducing kids to healthy eating through the activity of fishing is an idea you might like to try with your students. *How* might that work?
First of all, kids don't eat nutrients, kids eat food. I don't know many kids who would answer the question "*What* do you want for dinner?" with "I'm hungry for some Omega-3 fatty acids and protein!"

Food is holistic – not a sum of it's nutrients - it's something far greater than the sum of its parts… food includes taste, tradition, enjoyment, contentment, security, an expression of the cook's passion and love, family time, celebration, ceremony, culture, relationships – it's also *how* we eat. Healthy food *and healthy eating* nourishes the body, mind, *and the soul* – and our relationships to ourselves, our families and our community.

Engage Students in the "Whole Story" of their Food

Teach kids about healthy eating by involving them in the whole story of their food – not just what it is, but where it comes from, how it gets to be our food and what it "means".

One way to do this is to have your students plant a garden on the school grounds, tend the plants as they grow, harvest the produce, plan a celebratory meal and cook, share and eat the fruit of their labor with members of the school community and their families, and reflect on where the meal came from and their connection to it – and how this process makes them *feel* about their food. Many teachers are doing this with their students. But a garden grows over the summer months, when most kids are "vacating" school.

But, you can take kids fishing in the Fall, Winter and/or Spring as it fits into the rest of your curriculum during the school year. Teach your students *how* to fish using the lessons and activities from the Fishing: Get in the Habitat! Leaders Guide and then take them fishing. But don't stop there. Take the activity of fishing to its natural conclusion and engage kids in keeping, filleting, cooking and eating the fish they catch with **Lesson 6:5 – Eating Fish** PDF.

The activity of fishing "immerses" students in their aquatic environment with a "deeper kind of learning" that is relevant because you are engaging them with the real world in their neighborhoods where they live; and eating the fish they catch can bring a deeper awareness of their interconnection with their aquatic environment, and with the natural world. That sense of connection/or awareness of our vital "relationship" with the natural world is a powerful catalyst for igniting a reverence for nature and all who share the world with us.

Connecting to Your Food From the Inside-Out

The key to forging in your students a conscious relationship with what and how they eat is to not stop with the eating and tasting – but to take how we eat one step further. Feeling that you are what you eat starts by seeing where it comes from and engaging in and experiencing the entire process of getting it to your plate and in your stomach – and it becomes personal and meaningful when you also weave inside-out reflection

throughout the process.

Holistic learning personally involves each student: not only mentally with information and concepts, but also physically with movement, developing skills, practice – by getting them outdoors and involving their bodies, and emotionally – through discovering and recognizing their individual interests and strengths and engaging them in learning that is relevant and fun (which is what play is all about, isn't it?), and spiritually/meaningfully – through intentional, internal reflection.

Mindful Eating

Use journaling, discussion, and other techniques for thoughtful reflection to guide your students in identifying, clarifying and thinking about *how they are feeling and experiencing each step of the process* – from learning fishing skills to going fishing to choosing recipes and preparing and eating their fish – and sharing and celebrating their success and how it all makes them feel.

Catching, cooking and eating fish they've caught themselves, with reflective "mindfulness" can help students become more aware of where all of their food comes from – and how they eat – and how all of our food comes from the living things from the land and water- and how they, too, are part of the food chain – and ecosystems where they live.

The Center for Mindful Eating (TCME) says that "mindful eating has the powerful potential to transform people's relationship to food and eating, to improve overall health, body image, relationships and self-esteem."

Mindful eating involves many components such as:

- learning to make choices in beginning or ending a meal based on awareness of hunger and satiety cues;
- learning to identify personal triggers for mindless eating, such as emotions, social pressures, or certain foods;
- valuing quality over quantity of what you're eating;
- appreciating the sensual, as well as the nourishing, capacity of food;
- feeling deep gratitude that may come from appreciating and experiencing food

The Story of Pop

If the kids want soda on the menu with their fish, what might happen when you immerse them in the "story of pop" and take the corn from your classroom garden to make high fructose corn syrup, artificial coloring and flavoring… and reflect on how many cans of soda they think they've put into their bodies.

Recycle Those Empty Soda Cans

If you don't have a set of fishing poles for taking your kids fishing – check out **Lesson 5:3 - Pop Can Casting** PDF. After eating the fish they've caught with their pop can casters your students might think of lots of ways that re-using the pop can can be healthier "inside" – and more fun "outside" - than drinking pop!

Resources:

How to Get Your Kids to Eat Fish *by Michael Byrd*

How to Get Your kids to Eat Fish - Coconut Fish Recipe - video posted on Monkeysee.com

Kid Friendly Recipes for Getting Your Kids to Eat Fish by "Mommy Knows Everything"

How To Really Enjoy Your Meal

Center for Mindful Eating - a forum for professionals across all disciplines interested in developing, deepening and understanding the value and importance of mindful eating

Making a Pop Can Caster Video

"You must live in the present, launch yourself on every wave, find your eternity in each moment." - Henry David Thoreau

"Live the life you've dreamed – Henry David Thoreau

Angling for a Laugh

Chicken or Fish?

by Scott Moeller

May 2011

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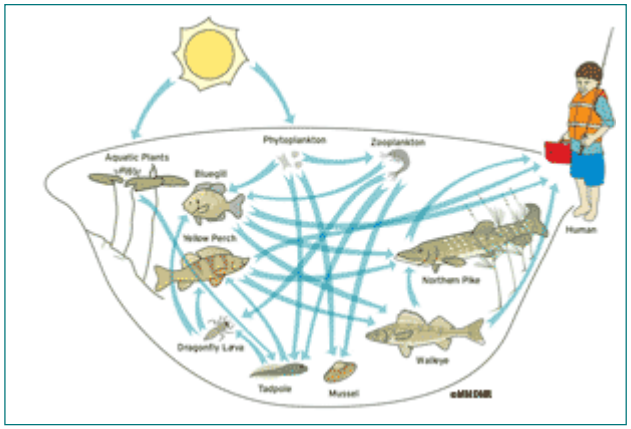
Have you ever seen an angry badger open a box of cereal? Me neither, but every now and then I get a glimpse of what I think it would look like. My kids have no respect for the integrity of the tab-and-slot system, and they remind me of foraging animals when they come upon a new cereal box. Maybe that's because opening a cereal box is now the closest thing my kids have to obtaining their own food.

Kids today are increasingly detached from where their food comes from. A high school ecology teacher friend of mine recently shared with me that some of his students were "grossed out" by their in-class project of making maple syrup from tree sap. I know kids who won't touch a piece of beef if it's still on the bone. And, my own kids actually prefer fast food chicken nuggets to homemade white meat chicken nuggets. "Where does bacon come from?" is as fascinating a dinnertable topic as "Where do babies come from?" or "Why does grampa yell at the TV?".

Like most problems with today's young people, I believe this problem stems from a lack of chicken butchering opportunities for today's youth. When I was a kid, I built character one headless chicken at a time, and came to equate personal growth with the smell of singed feathers. I know I am overly glamorizing it, but my point is that it's hard to develop a connection with the natural world, if we are removed from the natural system by which we get our food.

And, if you don't know where your food comes from, it's hard to understand the food chain and how energy flows through systems. Imagine, then, the difficulty of an educator trying to teach this concept to a group of children.

But wait. There is hope. Enter, the fish! Engaging kids in a real-world lesson about food chains and the flow of energy through systems is as easy as going fishing. Catch a bluegill, hold it up, and let that be the launchpad for your lesson.



That bluegill grew larger because it fed on small fish, aquatic insects, snails and worms.

Those small fish and invertebrates grew because they fed on very small daphnia, scuds, rotifers and other zooplankton. Those tiny critters grew because they fed on the algae and other microscopic aquatic plants (phytoplankton) in the water. And those things got their energy from the sun. (**Lesson 1:2 - Food Chain Tag** PDF (30 pages | 3.3 MB), and **Lesson 1:4 - Water Habitat Site Study** PDF (43 pages | 8.3 MB) in the MinnAqua ***Fishing: Get in the Habitat!*** Leader's Guide can help

you out with these topics.)

But, if too much talk about producers, consumers, and decomposers causes their attention to wane, you can always mention that sometimes bluegills eat other bluegills. For example, if a father bluegill doesn't like something one of his kids is doing, he might just decide to take care of the problem by eating the kid! (it's actually more complicated than that, but this oversimplification sidesteps the lurid details of bluegill sex and the cases of questionable paternity that frequently arise.)

And angry bluegill dads aren't the only things small bluegills need to watch out for. Bluegills are food for herons, snapping turtles, otters, as well as larger fish like pike, walleye and bass. And then there are humans. Yes, if you want to, you can actually take this packet of energy off of your hook and take it home with you and eat it. You don't have to worry about plastic packaging, preservatives, too much fat or sugar. Some kids will balk at the idea of eating a fish that came "right out of the lake" because it didn't come wrapped in packaging from the store, but most kids love the idea of eating food that they caught. It is a direct connection with food the way food is supposed to be, and a direct connection with the environment from which our food comes. (The **"Fishing Equipment and Tips" article** will even show you how to fillet that fish).

So, let nature be your guide, and teach some priceless lessons about food chains, energy flow, and where food comes from, all while having fun and making memories at the lakeshore. That sure beats a live chicken and a hatchet.

Updates & Opportunities

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