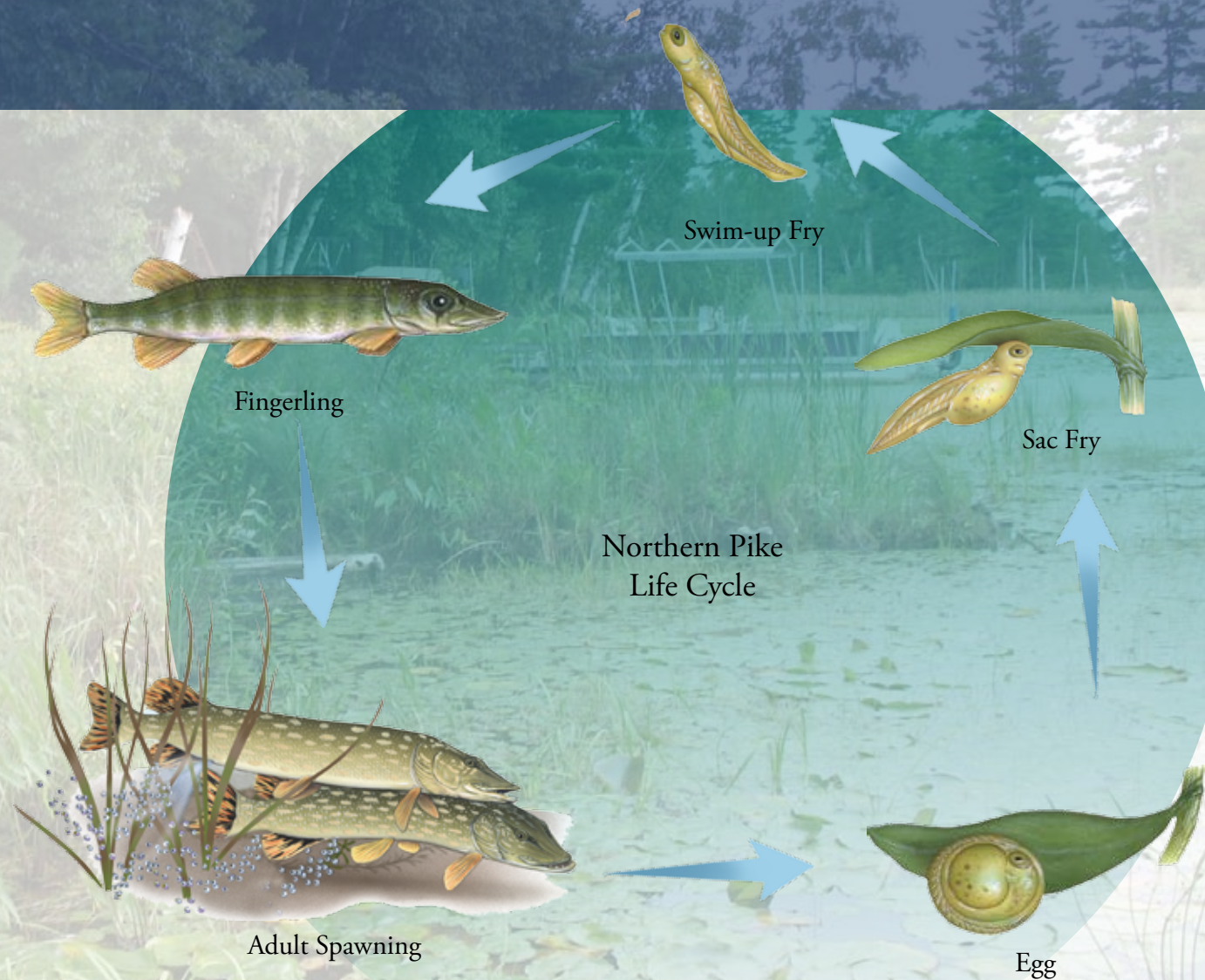




# MinnAqua *Fishing: Get in the Habitat!* 2008 Federal Annual Report





# Minnesota Department of Natural Resources MinnAqua Program Outreach Section of the Department of Fish and Wildlife

## Program Staff

Jenifer Matthees - MinnAqua  
Program Director; DNR Central  
Office, St. Paul, MN

Michelle Kelly - Aquatic Education  
Specialist, Metro; DNR Region 3  
Headquarters, St. Paul, MN

Nadine Meyer - Aquatic Education  
Specialist, Northern MN; Great  
Lakes Aquarium, Duluth, MN

Scott Moeller - Aquatic Education  
Specialist, Southern MN; DNR  
Region 4 Headquarters, New Ulm,  
MN

Roland Sigurdson - Aquatic  
Education Specialist, Metro;  
University of Minnesota Water  
Resource Center, St. Paul, MN

Michael Kurre - Mentor Program  
Coordinator  
DNR Central Office, St. Paul, MN

## DNR Management

Dave Schad - Division Director  
Ed Boggess - Assistant Director  
CB Bylander - Outreach Section  
Chief

Ron Payer - Fisheries Section Chief  
Dennis Simon - Wildlife Section  
Chief

Peter Skwira - Administration  
Section Chief

Mark Holsten - DNR Commissioner  
Laurie Martinson - DNR Deputy  
Commissioner

## Mission

MinnAqua **Fishing: Get in the Habitat!**

Connecting youth to Minnesota waters through fishing.

We aim to:

Accept diverse perspectives and strive for innovative programming

Build capacity and empower others

Create stewards of the resource



## 2008 Seasonal Staff - pictured above

Back Row L-R: Erica Tollefson - Anoka County Parks, Elise Larson -  
Lake Bemidji State Park, Jenny Heisel - East Metro, Betsy Baertlein -  
Whitewater State Park, Caleb Jacobson - Brainerd Area Fisheries, Eric  
Dubblede - Prairie Woods ELC  
Front Row L-R: Jennifer Plaster - Three Rivers Park District, Lindsay  
Brandt - Great Lakes Aquarium, Chai Xiong - Metro Outreach, Dan  
Ryan - Region 4 Headquarters

## MinnAqua Liaisons

Kyle Anderson - Ortonville  
Craig Berberich - Waterville  
Randy Binder - Lake City  
Dave Coahran - Spicer  
Kevin Cook - Crystal Springs  
Scott Cordahl - Spire Valley  
TJ DeBates - East Metro FiN  
Ryan Doorenbos - Windom  
Jeff Eibler - International Falls  
Paul Eiler - Grand Marais  
Mandy Erickson - Detroit Lakes  
Steve Erickson - Lanesboro  
Edie Evarts - Park Rapids  
John Frank - Hinckley  
Mark Gottwald - French River  
Scott Gustafson - Walker  
Nate Hodgins - Baudette  
Gene Jeseritz - Hutchinson  
Tom Jones - Aitkin  
Don Klick - Bemidji  
Steve Kubeny - Fergus Falls  
John Lindgren - Duluth  
Steve Marod - Little Falls  
Kelly McQuiston - Finland  
Carl Mills - Brainerd  
Mark Nemeth - West Metro FiN  
Mark Pelham - Montrose  
Lee Peterson - Peterson  
Al Schmidt - Glenwood  
Ed Stork - Lanesboro Hatchery  
Doug Thompson - Tower  
Jeff Tillma - Grand Rapids  
Cindy Tomcko - Research  
Rick Walsh - East Metro FiN  
Matt Ward - Lake Superior  
Leah Weyandt - West Metro FiN

## MinnAqua: An Investment That Continues to Produce Dividends

These days, investment strategies are a red-hot topic. How, where and when to invest dollars are the subject of unending debate due to the global recession.

Minnesota anglers faced a similar quandary nearly 20 years ago.

Concerned for the future of fishing, they questioned how best to invest in the activity they love. There were many options. Yet they chose, among other things, to support an investment in something new: the creation of MinnAqua, which would become the Minnesota Department of Natural Resources' conservation education and youth introductory angling program.

That investment continues to pay dividends for our state.

Those dividends are easily seen in the youth who learn to fish and earn a greater appreciation of our environment. They are evident in teachers and outdoor educators who have embraced the lessons and activities created by the MinnAqua staff. And most importantly, the dividends are woven into the fabric of our conservation and education community.

For example, many schools now integrate the MinnAqua curriculum as part of their science studies. Many former MinnAqua interns - college kids at the time - have risen into occupations where they have become advocates for fishing and habitat conservation. Likewise, many state, region and local parks chose to work through MinnAqua to reach youth through the activity of fishing. In short, the program's benefits don't begin or end at the DNR or even at the water's edge. Instead, they can be found from scout camps to school districts to a neighborhood fishing hole near you.

As programs go, MinnAqua is not large. Yet like many long-term investments, it accrues solid dividends thanks to the passing of time and the compounding number of program participants. And because staff are working to build greater capacity in partner organizations, the dividends are destined to continue to multiply.

As I mentioned at the outset, the MinnAqua program was created because anglers themselves saw the need to invest not only in habitat and fish stocking but youth, educators and a system to pass on the great Minnesota tradition of fishing. It was a good buy then . . . it still is.

C.B. Bylander  
Outreach Chief, DNR Fish and Wildlife Division

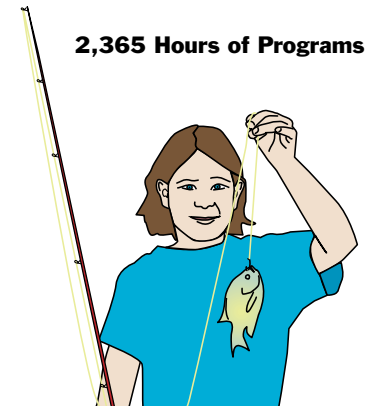


## *Adapting and Evolving - Strategically moving ahead*

MinnAqua has evolved over the past 19 years from its inception in 1989. From a pilot urban program to a nationally recognized and awarded program, MinnAqua and its staff hold honors in the Best Practice areas of design and delivery. MinnAqua continues its evolution through research driven initiatives, creation of new resources such as the improved MinnAqua *Fishing: Get in the Habitat!* Leader's Guide, and refining of program delivery. To date the program has successfully grown to include a program supervisor, four full-time Specialists, ten seasonal interns, grant supported partnerships, and contracted research, all with a budget less than 1% of the overall Fisheries budget.

The MinnAqua liaisons and interns are another key source of program success. With 32 fisheries liaisons and 10 seasonal interns MinnAqua's reach extends statewide. The intern and liaison skills and abilities aid in material development, planning, and delivery, which allows MinnAqua to reach many either directly or indirectly. These sources of support are invaluable and serve as a network that keeps the internal reach of the program grounded and the external reach connected at the local level.

MinnAqua's evolution continues as we look at changing trends of outdoor participation. We look to extend our reach further and look forward with additional strategies. By utilizing our strengths, reaching for new opportunities, and empowering others we set a course for a broader foundation. By utilizing our strengths we aim to create requested educator resource tools and strengthen the use of educator networks. We're looking to new opportunities through the use of mentors linked with beginning anglers. We strive to empower others through training in the use of the new Leaders Guide for their education and outreach efforts. Our broader foundation is to strengthen others in their educational outreach with the use of MinnAqua and to continue to help build sustainability in the programs that support our mission.



## *MinnAqua Program Staff Updates*

**Jenifer Matthees**, Program Coordinator, returned November 2008 from a 15 month leave to complete a Master's Degree.

**Michelle Kelly**, Metro Education Specialist, moved her office location from the Minnesota Department of Education in Roseville, to the DNR Central Region Office in St. Paul with close proximity to expanding Region 3 outreach efforts.

**Nadine Meyer**, Northern Education Specialist, moved her office location from the DNR Brainerd Office to a partnership office at the Great Lakes Aquarium in Duluth. This move was to create and strengthen outreach opportunities in northern MN and the Duluth area.

**Scott Moeller**, Southern Education Specialist, based in New Ulm replaced Kathy Beaulieu who moved to DNR Parks and Trails Division as the Regional Naturalist based in Bemidji.

**Roland Sigurdson**, Metro Education Specialist, maintains his office location at the University of Minnesota's Water Resource Center in St. Paul, and continues to strengthen this important partnership.

The Fish and Wildlife Outreach Section and MinnAqua Program welcomed **Mike Kurre** in his position as Coordinator of the new Hunting and Angling Mentor Program.



According to the Recreational Boating and Fishing Foundation Best Practices for Boating, Fishing and Aquatic Stewardship Education (RBFF Best Practices,) angling and aquatic education programs are more effective when they reach their audience from multiple settings - in both the formal or school setting, and in non-formal education settings which includes Park and Recreation Departments, Scout groups, 4-H, nature centers, and camps, etc. Building on its success in non-formal settings the MinnAqua Program has continued to increase its outreach efforts in formal settings by providing aquatic education materials and programming to teachers and students in Minnesota's K-12 public schools, private schools, charter schools, alternative schools, home-schools, technical schools, continuing education programs, and higher education institutions. Over 7776 participants were reached in 2008 through formal angling and aquatic education programs. Highlights include:

**Mankato Children's Water Festival** – The New Ulm Education Specialist served in a leadership role on the planning committee for the city of Mankato's Children's Water Festival. This is an annual event held in March that reaches over 500 fifth grade students from Mankato elementary schools with its theme of water stewardship. The



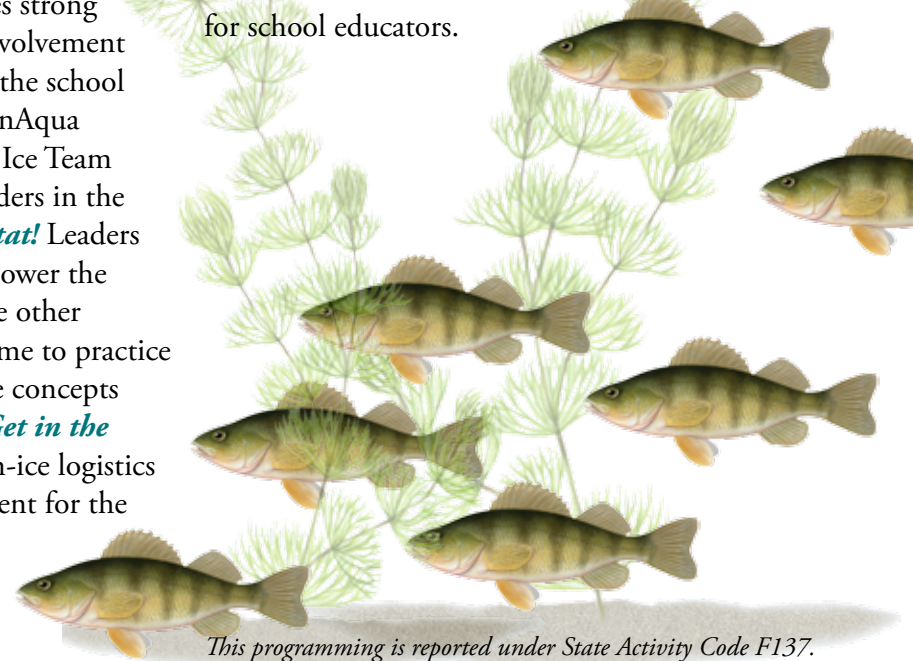
Student receiving a sticker for playing the 'Wheel O' Fish at the Mankato Children's Water Festival

MinnAqua Program provided staff, materials and activities for many of the stations at this day-long event.

### **MinnAqua/Ice Team Education Initiative**

– Partnerships leverage effort and increase outreach capacity. Ice Team LLC, is a marketing organization representing the ice fishing industry. MinnAqua has partnered with Ice Team in an education initiative that combines strong teacher, community and industry involvement in angling and aquatic education in the school setting. Through this initiative, MinnAqua Education Specialists train teachers, Ice Team members, and other community leaders in the use of the ***Fishing: Get in the Habitat!*** Leaders Guide. The training workshops empower the teachers, Ice Team members, and the other leaders. They receive information, time to practice and confidence to teach students the concepts and skills from lessons in ***Fishing: Get in the Habitat!***. Ice Team then provides on-ice logistics support, the experience and equipment for the classroom's ice-fishing experience.

**MN Academic Standards** - Lessons in the ***Fishing: Get in the Habitat!*** Leaders Guide are correlated to Minnesota's Academic Standards for grades 3-5 in Language Arts, Science, Math, and History/Social Studies. The standards correlations were updated and posted on MN DNR Natural Resources Education Programs' curriculum correlations web page. This on-line standards correlations matrix is a valuable online resource for school educators.

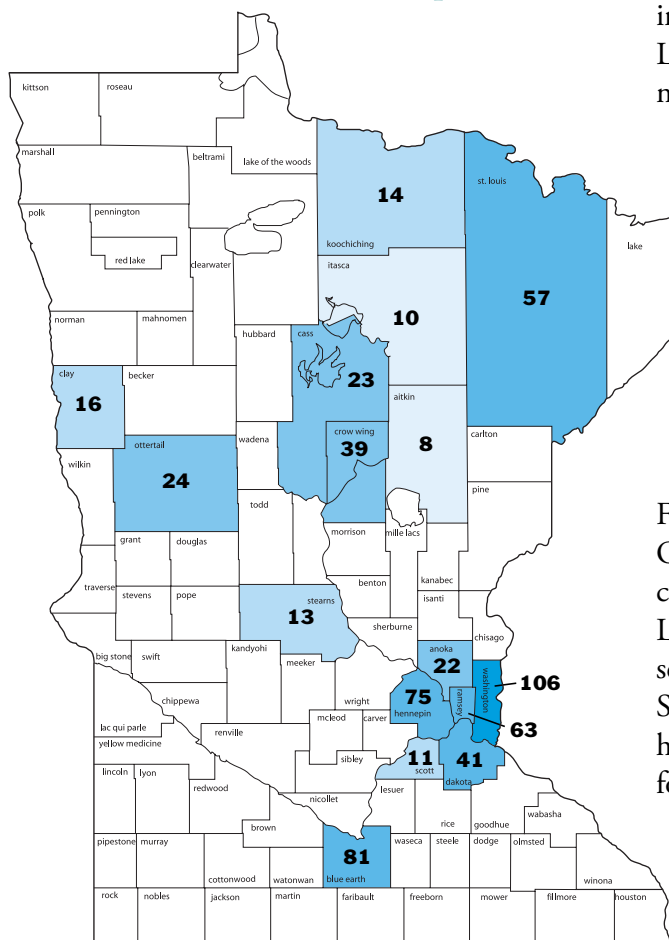


*This programming is reported under State Activity Code F137.*

## Spawning Aquatic Resource Educators - Training

Organizations that rely solely on their program staff for instruction limit the potential of their educational programs. Training and instructor preparation are critical to assure accurate and consistent use of program materials and activities. Training resources and opportunities are developed and delivered to Interns, MinnAqua Liaisons, other DNR natural resources staff, and volunteers. These “internal” training efforts strengthen the capacity of the MinnAqua Program by providing agency personnel and volunteers with the knowledge, skills, confidence, and resources to effectively implement the various components of MinnAqua’s integrated angling and aquatic education program. MinnAqua conducted training sessions for 10 summer program interns and 36 MinnAqua Liaison staff in fiscal year 2008. Highlights include:

### Counties where MinnAqua Educator Workshops have taken place and the number of educators trained at the workshops.



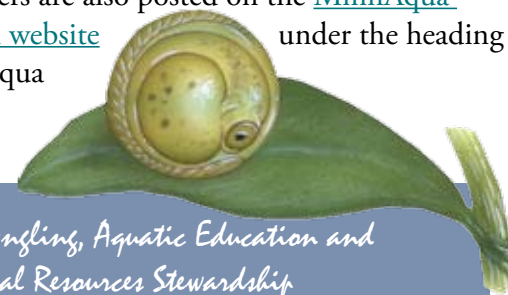
**MinnAqua Liaison Training** – Every two years MinnAqua provides training to support the 36 Fisheries Liaisons from DNR fisheries offices throughout the state. The February, 2008 Liaison training was held in Alexandria, and provided hands-on, practical exposure and experience in using the new *Fishing: Get in the Habitat!* Leaders Guide and guided liaisons on ways to market the new Guide to MN educators.

**Intern Training** – In April, 2008, MinnAqua conducted its annual Intern Training weekend at Deep Portage Environmental Learning Center in Hackensack.

Ten interns were trained for the summer programming season.

At mid-season the interns toured the Fisheries Pathology Lab at Central Office in St. Paul and then helped complete a shoreland restoration at a Lake Phalen in St. Paul. The end of season wrap up was held at Lake Maria State Park. Interns shared projects, highlights, and gave suggestions for continuing success of summer programming.

**MinnAqua Moments e-newsletter** – A seasonal electronic newsletter was unveiled in 2008 for distribution to educators and youth program leaders who have attended a MinnAqua Leaders Guide Educator Workshop and/or have received the Leaders Guide CD. This newsletter features lesson tips & tricks, book reviews that support lesson topics, community connection examples, topics on mentoring, piers & places to fish, and fishing equipment & tips for fishing. The newsletters are also posted on the [MinnAqua Program website](#) under the heading “MinnAqua News”.



### Facilitating Angling, Aquatic Education and Natural Resources Stewardship

In June 2007 MinnAqua unveiled the newly designed *Fishing: Get in the Habitat!* Leaders Guide. This new guide will help MinnAqua expand its outreach efforts by equipping an audience of Minnesota educators with the information and tools to teach angling skills and aquatic resources concepts in their classrooms and non-formal education settings. To prepare teachers and youth program leaders to effectively implement the *Fishing: Get in the Habitat!* lessons and activities MinnAqua offers training workshops targeted to the needs of the educators.

*Training activities are reported under State Activity Code F127.*



## Carrying Capacity - Fishing: Get in the Habitat! Educator Workshops

Training teachers and youth program leaders in the *Fishing: Get in the Habitat!* Leaders Guide expands the number and diversity of students we can reach. Research shows that educational materials often go unused by educators unless supported with detailed, learner-centered, hands-on, in-service training and implementation support for users. Simply distributing materials does not always result in their use. Educators are more likely to achieve the goals and objectives of a program if provided training in the use of curriculum materials and teaching strategies (RBFF Best Practices). Thirty-six MinnAqua Program *Fishing: Get in the Habitat!* Educator Workshops were conducted throughout the state in FY08 for 537 teachers and youth program leaders. Highlights include:

**MN Department of Education (MDE) and Service-Learning** - MinnAqua provided a training workshop at the 2008 state-wide Service-learning professional development day. This workshop showed teachers and school district service-learning coordinators from around the state how the *Fishing: Get in the Habitat!* Leader's Guide can be used to engage students in service-learning projects. The service-learning experience helps students to develop higher-level thinking and learning skills. It does this by providing students with the opportunity to connect their classroom studies to real-world issues and problems and apply the concepts and skills they are learning to address issues in the communities where they live.

Absolutely the most comprehensive training I have had all year.

~Doreen Kae Nelson, Fourth Grade Teacher, Silver Bay Elementary

I thought it was all very interesting. I've fished all my life and learned I've taken so much for granted. I learned so much today.

~Becky Dimich, Kindergarten Teacher, Greenway-Vandyke Elementary

**Teaming Up with Other Education Programs** – MinnAqua and MN DNR's Project Learning Tree (PLT) partnered to provide a joint workshop for educators. Lessons from the PLT Environmental Education Activity Guide and MinnAqua's *Fishing: Get in the Habitat!* Leaders Guide were used together to compliment and reinforce Conservation Education concepts. MinnAqua also partnered with Pheasants Forever (PF) to provide joint workshops on *Fishing: Get in the Habitat!* and PF's The Aldo Leopold Project.



**Silver Bay Elementary School** - Silver Bay Elementary School provided subs for their entire elementary staff and their two high school science teachers so they could be trained on the MinnAqua *Fishing: Get in the Habitat!*. The school is active with their School Forest Program and is incorporating the MinnAqua lessons into their School Forest activities.

The Leader's Guide is beautifully designed and will be a valuable resource!  
~Lucy Vitali, Fourth Grade Teacher, Merritt Elementary

"MinnAqua's wealth of quality material concisely packaged and easily implemented is a real gift!"  
-- Mary Hayes, Fourth Grade Teacher, Bagley Elementary

Best workshop I have been to.  
~Jill Bopp, Sixth Grade Teacher, Two Harbors High School

Workshops for teachers are coded to State Activity Code F137, and workshops non-formal educators are coded to State Activity Code F128.

## Feeding the Fry - Non-formal Angler Education



Direct programming to non-formal (non-school) groups reached 26,777 youth and adult participants in FY 2008. The majority of our direct programming efforts were delivered through Fishing Clinics, Events and Education Loaner Trunks. Highlights include:

### The 60th Annual Governor's Fishing Opener – Enlisting the

assistance of Kinship Programs,

MinnAqua conducted a youth fishing program at the May Opener in Pequot Lakes and Breezy Point. Two Interns and the Brainerd Fisheries Liaison assisted the Northern Minnesota Specialist with this event. Working with the youth Event Planning Committee the Specialist organized activities, volunteers, and media, for the fishing program. MinnAqua Specialists also provided fish filleting demonstrations with the First Lady and activities on fishing and aquatic education.

**Great Waters Fly Fishing Expo** - A MinnAqua Kids Fly Fishing Camp at the Spring 2008 Great Waters Fly Fish Expo in Bloomington included stations teaching fly-tying, fly casting,

aquatic macroinvertebrate identification, fish identification, and fishing safety instruction.

**MN State Parks** – State Parks provide a Gateway to Minnesota's outdoors. As part of the State Parks' celebration of Minnesota's Sesquicentennial, MinnAqua worked with State Park naturalists and other park staff to hold numerous fishing programs with a historical fishing context for State Park visitors. These included making cane fishing poles, voyageurs enactments, fishing history, culture and techniques.

### MinnAqua's Weekend Fly Fishing

**Camp** - The second MinnAqua Fly Fishing Camp was held at Good Earth Village in Spring Valley in southern Minnesota on May 16-18, 2008. The Fly Fishing Camp was designed this year as a family program, including

a child and adult pair teamed with an expert mentor guide. Thirty-seven adult/youth pairs spent the weekend learning about water quality and watersheds, fly casting, fly fishing strategies, and fly-tying skills, invertebrates, and stream management, caring for the catch, outdoor cooking, and safety. Adult/youth teams also had opportunities each day to practice their new fly fishing skills together on some of

southeastern Minnesota's premiere trout fishing streams with individualized instruction from their expert guides. The Fly Fish Camp relies on MinnAqua staff, MN DNR Fisheries staff, Trout Unlimited members, Federation of Fly Fishers members and other volunteers to facilitate the sessions and classes, and run this popular weekend family fishing clinic.

### Lura Lake south of Mapleton,

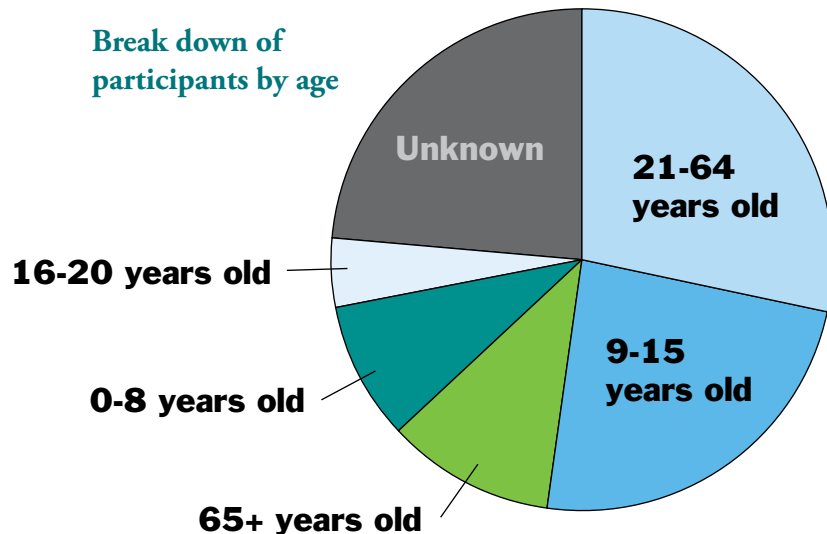
MN - Several hundred kids participated in a four-day MinnAqua fishing clinic at Daly Park, May 14-17, 2008 conducted by a MinnAqua Intern.



### Crow River Trail Guards in Paynesville,

MN – 2008 marked the 11th year that a fishing trip on the Crow River was the season's culminating outdoor adventure event for the group's 50 participating youth ages 9 - 18. The Paynesville Trail Guards Organization evolved from the State of Minnesota "Clean the River Program" to provide an opportunity for local youth to share in the creation and maintenance of the Crow River Nature Park and area trails. MinnAqua facilitated instruction in angling skills, Minnesota fish identification, aquatic habitats, and a river fishing expedition where good-sized bluegills, black crappies, and yellow perch were caught by all of the enthusiastic anglers.

Break down of participants by age







MinnAqua has developed a set of learning trunks that are available to educators for check-out at locations throughout the state. To learn where to pick them up for check out go to the [SEEK website resource page](#).

## Fishing Trunks

This learning trunk contains materials to make your own fishing equipment. The trunk includes fish identification cards, ethics and regulation activities, regulation books, knot tying, materials and directions to make pop can fishing rigs and a simple tackle box.

## Aquatic Exotics Trunks

The Minnesota Sea Grant's Exotics Aquatics Traveling Trunk (for ages 9 - adult) is an exploration of museum-quality exotic specimens. An award winning video, book, map, and other resources accompanying the nine hands-on lessons. The lessons, experiments, games, and stories in the trunk integrate science, art, math, geography, social studies, and English.

## Macroinvertebrate Trunks

The MinnAqua macroinvertebrate trunk was designed specifically to assist educators in discussions on macroinvertebrates and their adaptations to aquatic life styles.

The macroinvertebrate trunk will assist you in diving deeper into the aquatic world of these fascinating organisms. We have collected a number of lessons and activities from various resources around the country and combined them in this single resource trunk. These lessons and activities are best suited for grades 3 thru 8, but can be modified for most applications.

## EnviroScope Watershed Model

EnviroScope watershed model is a three-dimensional tabletop landscape that illustrates residential, recreational, agricultural, industrial, and transportation areas - all representing possible sources of water pollution. Children and adults learn by using chemicals (drink mix) and loose soil (cocoa) throughout a typical community to see how their actions and those of others may affect our water quality. EnviroScope actually emphasizes pollution prevention with a follow-up demonstration that shows how to prevent such pollution through the use of best management practices.

**All trunks are available for pick up only.**

	East Metro Area Office Phone: 651-259-5761	West Metro Area Office Phone: 952-826-6771	Great Lakes Aquarium Phone: 218-740-2063	New Ulm Regional Head Quarters Phone: 507-359-6049	Detroit Lakes Area DNR Office Phone: 218-846-8340	Grand Rapids Regional Head Quarters Phone: 218-327-4455	Lake Bemidji State Park Phone: 218-308-2300	St. Croix State Park Phone: 320-384-6591
<b>EnviroScope</b>	X	X	X	X	X	X	X	X
<b>Fishing Trunk</b>	X	X	X	X				
<b>Aquatic Exotics Trunk</b>	X	X	X	X				
<b>Macroinvertebrate Trunk</b>	X	X	X	X				

## MinnAqua Program Participation Demographics

A priority of the MinnAqua Program, since the program's inception, has been to introduce Minnesota's diverse communities to the activity of fishing. This priority is becoming increasingly important as Minnesota's demographics change. Demographic trends: In the coming years, more than 85% of the US population will be living in urban communities (Outdoor Foundation, Outdoor Recreation Participation Report 2008); Hispanic and Latino populations will dramatically increase their share of the U.S. population over the next several decades (PEW Hispanic Center's 2007 Census); and compared to the current majority, racial and ethnic minority groups are less likely to participate in many forms of natural resource-based recreation activities and are especially less likely to participate in water-based recreation (RBFF). Highlights of culturally diverse outreach include:

**Festival of Fish** – A diverse group of 250 kids from St. Paul and Minneapolis Park and Recreation summer programs participated at MinnAqua's fifth annual Festival of Fish, at Fort Snelling State Park, July 2008. Each participant received a free rod and reel through a \$3000 donation to the DNR's Fishing in the Neighborhood program from the Charitable Gift Fund of Clifford Timm.

**Youth viewing live fish with FiN staff, Rick Walsh at Festival of Fish**



**Vietnamese Social Services Youth Education** - On July 2, 2008 the Northern MinnAqua Education Specialist and Intern provided a full-day fishing clinic for high school youth visiting Itasca State Park as part of the Vietnamese Social Services Youth Education Program. The youth participated in hands-on activities that focused on aquatic habitats, Minnesota fishes, fisheries

management, stewardship, and fishing. Motivated by what they learned the students were interested in providing fishing clinics for their community in the Twin Cities Metro area.

**The 4th Annual Ceremonia Chalchiutlicue: Community Celebration**, Traditional Azteca Danza and Environmental Justice Summit - From May 30 - June 1, 2008 the community-driven Native American celebration and environmental-justice forum was held in St. Paul and Minneapolis. This celebration focused on families and important native water ceremonies while providing workshops for water stewardship education and environmental community action. Participation by the Metro Area MinnAqua Specialists over the three-day event included

providing water education activities for kids at Powderhorn Park in Minneapolis and fish consumption materials for families at the events and workshops held at The Neighborhood House in St. Paul's West Side community. MinnAqua also facilitated a family fishing clinic following Chalchiutlicue's traditional water ceremony at Fort Snelling State Park.

**Great Waters Heritage Faire** – One Intern project included developing and coordinating the Great Waters Heritage Faire held at Great Lakes Aquarium in Duluth on the third Saturday in August in 2007 and 2008. This one-day event featured living history presentations on Minnesota's early pioneers, "river pigs", lighthouse keepers, and voyageurs. Guest presentations were also provided by Dr. Pricilla Fairbanks and Dr. Linda Grover of University of Minnesota Duluth on Ojibwe heritage.

### MinnAqua Program Participation: Ethnic Background Demographics

39	Mixed
47	SE Asian
53	Somali
253	Asian American
570	African American
657	American Indian
1,478	Hispanic
38,658	Caucasian
25,740	Unknown



**MinnAqua Education Specialist, Nadine Meyer and 2008 MinnAqua Intern, Caleb Jacobson present first-person living history about the Voyageurs of the American Fur Trade and the life of a River Pig (riding floating logs down the rivers to Lake Superior) for the Great Waters Heritage Faire**



## Habitat Conservation - Partnerships

The success of recruitment and retention of anglers and efforts to develop stewardship in program participants requires more than a single agency response. Partnerships with other agencies, organizations, businesses, schools and communities are essential ingredients to the success of the MinnAqua Program.

Existing partnerships are nurtured, and new partnerships are fostered as part of an on-going strategy for maximizing outcomes of our clinics and events in the non-formal setting. Partner agencies include:



### Great Lakes Aquarium (GLA)

- The Great Lakes Aquarium in Duluth has housed and cost-shared a seasonal MinnAqua Intern for many years. In

January of 2008, the Aquarium and the DNR strengthened this partnership by cooperating to house the Northern MN Education Specialist at the Aquarium. Through this partnership the Aquarium provides free office space, phone - local & long distance, internet service, postage, storage and copying for the Specialist. In return, the Specialist provides on-site MinnAqua programming, teacher training, staff development and program materials for the Aquarium. The Duluth location provides MinnAqua with access to a large northern Minnesota population center and increased outreach opportunity.



### Confidence Learning Center (CLC)

- MinnAqua partnered with CLC in Brainerd, MN to house and cost-share the

Brainerd Intern for one season. The intern provided MinnAqua programming on-site for the groups visiting CLC and also worked with the staff to develop alternative activities for people with disabilities based on *Fishing: Get in the Habitat!* lessons.



### Three Rivers Park District (TRPD)

- Another long-standing partnership has been with TRPD in the city of Minneapolis. MinnAqua collaborated with TRPD to provide four entry-level summer Fish Camps for the cities' youth, and a new Extreme Fish Camp for returning campers in 2008. The Extreme Fish Camp, in particular, was well received. It enabled young anglers to not only practice and master basic skills, but also to increase the range of their fishing skills and explore more advanced fishing techniques as they learned the adaptations, habits and habitat needs of MN fish species beyond panfish species.



### University of Minnesota Water Resources Center

- MinnAqua worked together with the U of M Water Resources Center to produce a presentation entitled 'Strange, Mysterious, Fantastic and Invasive!' that was given at the Science Museum of Minnesota's annual River Summit. The River Summit highlights work done by High School students involved in the Volunteer Stream Monitoring Program (VSMP). The presentation introduced VSMP students to the potentially harmful ecological impacts that can ensue from the introduction of aquatic nuisance species to Minnesota waters.



### Minnesota Department of Education (MDE)

- In 2001 MinnAqua initiated an innovative Inter-Agency partnership agreement with MDE to house one Metro-area MinnAqua Education Specialist. This provided MinnAqua with access to MDE state academic content area specialists, Minnesota's Quality Teacher Networks (QTNs), Minnesota's state Service-learning coordinator, the Agriculture Ed Program, the Career/Tech Program, the MN Indian Education Program, the MN state assessment specialists, MDE meetings and communications, and more, as well as immediate information about new Academic Standards and state education initiatives throughout the development of the *Fishing: Get in the Habitat!* Leader's Guide. A State Service-Learning Professional Development Workshop was hosted by MDE in the winter of 07-08, providing a 6-hour *Fishing: Get in the Habitat!* workshop for teachers across the state. The MinnAqua/MDE partnership expanded exposure and recognition for MinnAqua within Minnesota's formal education community, and opened direct communication between MDE, MinnAqua and MN DNR. In 2008 MDE was no longer able to house the MinnAqua Education Specialist, though continues to be a strong partner with the MinnAqua Program and the MN DNR's other educational programs.

## Structures in our Habitat - Displays, Brochures and Information

Along with developing and providing educational programming, the MinnAqua Program develops tools and materials to support angling and aquatic resource education and interpretation of aquatic resources. These tools and materials include but are not limited to: kiosks, brochures, curricula, displays, and electronic resources. Tool and material development follows the same Best Practice guidelines as program development. Examples include:

### Snapshot of the new Take a Kid Ice Fishing web page developed for the 2008 Take a Kid Ice Fishing weekend kick-off



[Take-A-Kid Ice Fishing Website](#) - Last year marked the launching of Minnesota's first annual Take-A-Kid Ice Fishing Weekend. Following legislation the weekend is the Saturday, Sunday, and Monday that coincides with President's Day that fell on February 16-18, 2008. MinnAqua created a Take-A-Kid Ice Fishing website with information and activities for adults who want to introduce kids to the sport of ice fishing. Promotional materials were also created to promote the weekend.

[Take-A-Kid Fishing Page](#) - Following legislation this weekend is the first Friday, Saturday, and Sunday after the first Monday in June, which fell on June 6-8, 2008. A web page was created and added to MinnAqua's webpage with information

and activities for adults wanting to introduce kids to fishing.

[MinnAqua lessons on the Web](#) - Weblinks to sample lessons from the *Fishing: Get in the Habitat!* Leaders Guide were added to the [MinnAqua website](#) for educators to view a sample and encourage signing up to receive more through a CD or workshop.

[Brainerd DNR Area Fisheries Office Hatchery Display](#) - The fisheries staff at the Brainerd area office identified a need for a display that allowed

visitors to see the egg-take process that happens at a remote location away from the hatchery. The Northern MN Specialist worked with the Liaison to develop an interpretive plan and assisted with procurement of the materials needed for viewing a DVD created of the egg take. [Staying current and updated](#) - MinnAqua began the process of updating the Leader's Guide utilizing Liaisons and MinnAqua Staff to prepare for putting a complete digital version of the guide online for educators to download.

[Duluth/Superior DNR Area Fisheries Office & French River Hatchery](#) - Work has begun with the Liaisons and Area Supervisors at Duluth/Superior offices to develop an interpretive plan that includes updates to existing interpretive signage on management activities and local resources and to create new interpretive signs around the property that describe the hatchery process for visitors. The existing signs are slated to be replaced in early 2009, the interpretive trail is slated for completion by December 31, 2009.

### Interpretive sign from Duluth/Superior DNR Area Fisheries currently being updated

## Smolt Trap

After hatching, most steelhead spend two years in North Shore streams before they migrate to Lake Superior to live out their adult lives. Steelhead undergo physical and physiological changes prior to migrating. This process is called smolting and the fish are called smolts.

The smolts in the French River are trapped in May and June. Smolts are counted, measured and weighed then released to continue their migration to Lake Superior.

Fish managers use information collected from the smolt and adult-fish traps to guide the management of both wild and stocked populations of anadromous salmon.



This project was partially funded through the Federal Aid to Sport Fish Restoration Act, administered by the U.S. Fish and Wildlife Service.



### The Smolt Trap

This trap is used to capture steelhead smolts on their way to Lake Superior. The trap consists of an inclined stainless steel screen, catch box, and rotating drum. This design allows most of the water to filter through the inclined screen as the young steelhead enter the catch box. The rotating drum removes debris from the catch box.



## Baiting and Lures - Seminars

Seminars foster an awareness for angling and aquatic ecosystems. Seminars consist of fisheries talks, information booths, and other short term programming that addresses a specific topic generally to large groups of people statewide. Audiences include experienced and novice anglers, lake associations, educators, and the general public. Highlights include:

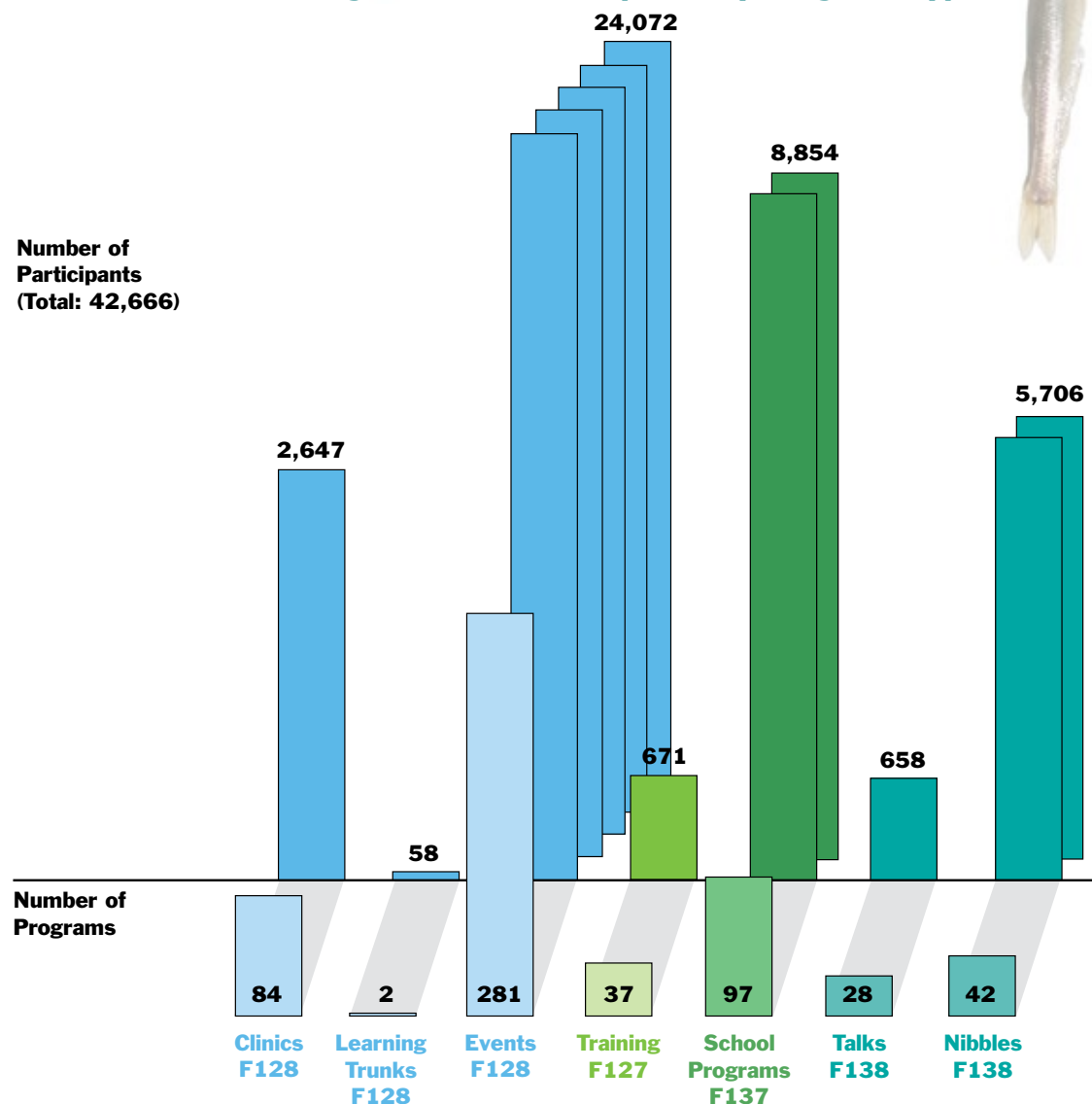
**Lake Phalen Water Festival** - In July MinnAqua and Fishing in the Neighborhood (FiN) partnered on a fish identification station and fishing at the Water Festival. This metro community event is sponsored by the Ramsey-Washington Metro Watershed District to engage the local Lake Phalen residents in recreational activities and stewardship education.

**Natural Resources Education Council (NREC)** - The NREC is an internal DNR committee that shares resources and information to meet the internal and external needs of customers on environmental education. MinnAqua serves as a liaison for the Division of Fish and Wildlife.

**Minnesota State Fair** - MinnAqua staff provide hourly talks at the State Fair Fish Pond. Visitors to our site were assisted in identifying the species that were available for viewing in the pond and provided with information on natural history, angling techniques and fish population status around the state. At the 2007 State Fair MinnAqua presented two Fishing Days at the Fair highlighting open water and ice fishing.

*Seminars are reported under State Activity Code F138.*

### Numbers of Programs and Participants by Program Type



## Scouting the Currents - On the National Scene

*“Leaders are more powerful role models when they learn than when they teach.” – Rosabeth Moss Kantor*

Keeping abreast of national activities and involvement in national organizations is important in order to track trends, see opportunities and prepare for change. Effective programs recognize the critical role of ongoing professional development. Through professional development, training, and taking active roles on national, state and regional committees, the MinnAqua Program is recognized as a national and state leader in angling and aquatic education.

**Association of Fish and Wildlife Agencies (AFWA) Conservation Education Strategy and K-12 Initiatives** – MinnAqua staff participated on committees that developed the AFWA Best Practices Guide for Stewardship Education, the AFWA Scope and Sequence for K-12 Conservation Education, and participated in the AFWA Conservation Education K-12 Initiative meeting in Denver, Colorado, which set priorities for the AFWA Education Outreach and Diversity committee and the 2009 Multi-State Grant Proposal.

**American Fisheries Society Urban Angling Symposium** - MinnAqua Specialists co-authored three professional papers as part of the American Fisheries Society's compendium of 40 papers presented at the September 2007 American Fisheries Society Urban Fishing Symposium in San Francisco. The papers were published in October of 2008 in the book entitled **Urban and Community Fisheries Programs**: Development, Management, and Evaluation, Richard T. Eades, J. Wesley Neal, Thomas J. Lang, Kevin M. Hunt, and Paul Pajak, editors. This book will appeal to fisheries managers, administrators, park superintendents, academics, researchers, and students.

The papers published in **Urban and Community Fisheries Programs Proceedings** are titled:

1.) MinnAqua - Minnesota's Angling and Aquatic Education Program Launches Fishing:

Get in the Habitat! in Schools (Michelle M. Kelly and Roland E. Sigurdson)

2.) Fishing in the Neighborhood: Understanding Motivations and Constraints for Angling Among Minneapolis - St. Paul, Minnesota Metro Residents (Susan A. Schroeder, David C. Fulton, Mark L. Nemeth, Roland E. Sigurdson, and Richard J. Walsh)

3.) Untangling the Line: Constraints to Fishing Participation in Communities of Color (Susan A. Schroeder, Mark L. Nemeth, Roland E. Sigurdson, and Richard J. Walsh)

All three papers can also be accessed on the [DNR Fisheries Education Publication Website](#).

Pheasants Forever's National Pheasant Fest 2008 and 25th Anniversary Convention - Held at the St. Paul RiverCentre February 2008, MinnAqua coordinated a youth and family focused educational area partnering with other DNR outreach programs. Booths included hands-on activities including macro-invertebrate investigation, casting, craft tables for making jiggle-sticks, and family stage presentations on taking kids fishing. This event reached over 9000 participants over a three day period.

### Conference Presentations

MinnAqua Education Specialists promoted **Fishing: Get in the Habitat!** at the following conferences throughout the year:

- Education Minnesota (EdMN) – Minnesota's State Teachers Conference – Education Minnesota is the largest advocate for public education in the state and has over 70,000 members
- MN High School Agriculture Teachers Conference – Two workshops for Agriculture Program teachers who teach Natural Resources courses
- Minnesota Lutheran Science Teachers Conference
- Minnesota Association of Alternative Programs (MAAP) conference
- Minnesota Science Teachers Association (MnSTA) conference
- MnSTA Elementary Science Teachers conference
- Minnesota Association of Environmental Education (MAEE) conference
- Aquatic Resources Education Association (AREA) National Conference in Corpus Christie, TX.
- National Science Teachers (NSTA National) Conference in Boston, MA.
- National Association of Interpretation (NAI) National Conference in Wichita, KS
- Minnesota Naturalist Association: 'The Secret Insides of Fishes'

*Professional development, staff training, and committee work are reported under State Activity Codes F137, F127, or F126 depending on area of focus.*



## The Linkers - National Awards & Statewide Recognition

*“Recognition through awards from such prestigious national organizations helps MinnAqua reach more educators and students with our message that fishing is a life-long activity that connects participants with their local environment and encourages stewardship of natural resources.” --Jennifer Matthees, MinnAqua Program Coordinator. 2008 awards and recognitions:*



The Sport Fish Restoration Awards Program, administered by the American Fisheries Society presented the MinnAqua Program an Honorable Mention in the Aquatic Education award category for the *Fishing: Get in the Habitat!* Leaders Guide.

The [Interpretive Media Awards Program](#) administered by the National Association for Interpretation (NAI) awarded the MinnAqua Program first place in Interpretive Curriculum category for the *Fishing: Get in the Habitat!* Leaders Guide.



A GreenPrint for Minnesota: State plan for environmental education, third edition, is designed to serve those who educate, provide funds, develop programs, support efforts, and set policies that affect environmental education in this state. The plan's intent is to offer guidance from 2008-2018 to those helping Minnesota citizens achieve the state goals for environmental education, Minn. Statute § 115A.073, and ultimately attain environmental literacy.



MinnAqua's work was cited in the third addition under *“Progress Made Since 2000 on GreenPrint, second edition Outcomes.”*

MinnAqua is recognized in two areas as a notable example of progress in EE in MN over the past eight years under the following GreenPrint, second edition outcomes:

- Outcome 3 (pg. 44): Focus on Out-of-Classroom EE Programs for K-12 Students for the publication of our new *Fishing: Get in the Habitat!* Leader's Guide - and
- Outcome 7 (pg. 47): Implementation of EE Assessment Tools for MinnAqua's efforts in program evaluation.

Download the MN GreenPrint 3rd edition from the [SEEK Website](#).

## Environmental Feedback - Surveys and Evaluations

A variety of surveys and evaluations are done to keep the program current on aquatic issues and relevant to the day-to-day needs of our staff and clientele. Clientele, cooperating agencies, target populations, MinnAqua staff, and DNR staff provide input to the program through appropriate survey or evaluation tools and program/ staff evaluations. Angling and Aquatic Resources Education programs define and measure results in order to improve current programs, ensure accountability, and maximize the effects of future efforts. “Effective program evaluation is a systematic and ongoing process that begins when a program is being planned and carries through implementation” (RBFF Best Practices). Evaluative techniques vary depending on the setting and need, and effective programs utilize the appropriate tools for receiving feedback that allows the program to continue to grow and meet clientele needs.

In 2008, MinnAqua contracted with Julie Ernst, Assistant Professor in environmental education at the University of Minnesota Duluth, to evaluate distribution methods of and use of the *Fishing: Get in the Habitat!* Leader's Guide. The evaluation involved two components: 1. A broad survey of teachers who participated in a *Fishing: Get in the Habitat!* Leader's Guide training workshop and received the Leaders Guide. 2. A smaller, more focused, educator-participation component involving those teaching one lesson from each of the six chapters and culminating the unit with a fishing trip and service-learning project. Results from this evaluation can be found on the [Fisheries Publication Website](#).

*Survey and evaluation activities are reported under State Activity Code F129.*

## *Anticipating New Migration Routes - Looking Forward*

MinnAqua will continue to enlist a proactive approach in promoting and supporting angling and aquatic education in the state of Minnesota. To help ensure success, the MinnAqua Program grounds its efforts in up-to-date, research-based Best Practices, benchmarks, standards, blueprints and guidelines for the education field, including the Recreational Boating and Fishing Foundation's, Best Practices for Stewardship, Fishing and Boating Education Programs [Best Practices] workbook, The NAAEE Guidelines for Excellence in Environmental Education, state and national Academic Standards for efforts in the K-12 school setting, the Environmental Literacy Scope and Sequence, The Minnesota GreenPrint, the new Association of Fish and Wildlife Agency Conservation Education Strategy Benchmarks, and the MN DNR Conservation Strategy.

For more information about the MinnAqua Program contact **Jenifer Matthees, Program Coordinator** at [jenifer.matthees@state.mn.us](mailto:jenifer.matthees@state.mn.us).

For more information about how you can attend or host a MinnAqua Workshop and educate youth about angling and aquatic resources, contact your local MinnAqua Education Specialist:

**Northern Minnesota - Nadine Meyer, Great Lakes Aquarium, Duluth, 218-740-2063, [nadine.meyer@state.mn.us](mailto:nadine.meyer@state.mn.us)**

**Twin Cities Metro Area - Michelle Kelly, Region 3 DNR Area HQ, St. Paul, 651-259-5751, [michelle.kelly@state.mn.us](mailto:michelle.kelly@state.mn.us)**

**Twin Cities Metro Area - Roland Sigurdson, UMN Water Resources Center, St. Paul, 612-625-1291, [roland.sigurdson@state.mn.us](mailto:roland.sigurdson@state.mn.us)**

**Southern Minnesota - Scott Moeller, Region 4 DNR Area HQ, New Ulm, 507-359-6049, [scott.moeller@state.mn.us](mailto:scott.moeller@state.mn.us)**

This project received funding through the Federal Aid in Sport Fish Restoration Act, administered by the U.S. Fish and Wildlife Service.

Equal Opportunity to participate and benefit from programs of the Minnesota Department of Natural Resources is available to all individuals regardless of race, color, creed, religion, national origin, sex, marital status, status with regard to public assistance, age, sexual orientation, membership or activity in a local commission, or disability. Discrimination inquiries should be sent to MN DNR, 500 Lafayette Road, St. Paul, MN 55155-4031; or the Equal Opportunity Office, Department of the Interior, Washington, DC 20240. This document is available in alternative formats to individuals with disabilities by calling (651) 296-6157 (Metro Area) or 1-888-MNDNR (MN Toll Free) or Telecommunication Device for the Deaf./ TTY: (651) 296-5484 (Metro Area) or 1-800-657-3929 (Toll Free TTY).

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