



Dear Name,

Come on out and test the waters, we're casting out another edition of the Gulp!@ VIP E-Newsletter, filled with expert fishing information, tips and resources, just for VIPs. Also, put on your thinking Berkley cap for our brand new trivia game. In the latest e-newsletter you'll find:



Berkley Gulp!® Trivia Game

Anglers, think you know your stuff? Test your knowledge with the Berkley Gulp!@ Trivia Game. Find out if you're an angler scholar or a little wet behind the gills.

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Gulp!® Tackle Box

Hook more fish on your line by searching online! Check out the all-new Gulp@ Tackle Box, the online search engine that allows you to browse by Gulp!@ bait or by type of fish.

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Gulp!® Expert Panel

Before you head out, check in with our team of world-class anglers, and get the in-depth knowledge and strategies you need to land more fish.

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Pro-Files & Tips

Get more fishing secrets directly from the pros you trust. Find what you need by region or water-type — and even submit your questions.

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Berkley® Conservation Institute

For years, Berkley has been building fish habitats made from recycled fishing line, which can be found under piers across America. Find out how they work and how well.

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Gulp!® Science

Are Walleyes harder to catch because they have better vision than Bass? Keith Jones, Ph.D. gives his expert advice on this illuminating subject.

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**Berkley® Conservation
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Gulp!® Science

Discover the science of
catching more fish with
Keith Jones, Ph.D.

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Great Gulp!® Trivia Game

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Fresh Water

Home

 Great Gulp![®]
Trivia Game

 Gulp![®] Tackle Box

Expert Panel

Pro Files and Tips

 Berkley[®]
Conservation
Institute

 Gulp![®] Science

Salt Water


Gulp![®] Expert Panel

-- Select Article --

The Gulp![®] Expert Panel is made of top fishing columnists from leading outdoor magazines. Check back often as we add to our library of fishing articles. It's just one more exclusive benefit for Berkley[®] Gulp![®] VIPs.


Stellar Smokers - Jupiter Kingfish

Steve Kantner explains why the kingfish bite off Jupiter can be out-of-this-world.

[GO](#)
Straight Up on Cobia

Sample Florida's diverse cobia sight fishing three ways with Frank Bolin.

[GO](#)
River-Style Snookin'

The Myakka is a case study in classic blackwater snook fishing, by Chris Christian

[GO](#)

Spring Into Tarpon

The many ways and places to catch a silver king.

[GO](#)
Wacky About Flounder

John N. Felsher explores how flounder anglers take bass techniques to the salt.

[GO](#)

Trends in Panfish Tackle

Presentation pointers on attracting the elusive Panfish.

[GO](#)
Soft Rigging Methods

Getting the most from high-quality soft baits.

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Versatile Jigging Presentations

Switching up jigging techniques can mean the difference between catching and not catching fish.

[GO](#)
NEW - "Powering" Up For Pike & Muskies

Use soft baits to catch more and bigger toothy critters.

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Steelhead Alternatives

To catch the often fickle steelie, you might have to think outside the box

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NEW - The Gulp! Revolution

Berkley's innovative line of soft bait is taking the fishing world by storm.

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400 times more
scent dispersionFresh Water 

Home

Great Gulp![®]
Trivia ContestGulp![®] Tackle Box

Expert Panel

Pro Files and Tips

Berkley[®]
Conservation
InstituteGulp![®] ScienceSalt Water 

Our Pros



Pro Files and Tips

-- Berkley[®] Pro Finder -- 

NEW! Ask the Pros

Have a burning question for one of our Berkley[®] Fishing Pros? Here's your chance to get the inside scoop. Ask your question and check back in the future to see if yours was selected.

First Name:

Last Name:

E-mail:





Question:

Featured Tips - Byron Velvick

- TIP** When utilizing multiple rods throughout a single days fishing, be sure to keep both the consistency and shape of your Gulp![®] soft plastics by wrapping them in a traditional "pig-saver." Once moistened, the wet-sponge middle of this pork-saver will ensure the life, action, and scent of this very effective new product until you reach for it again!
- TIP** When throwing reaction baits (spinnerbait, crankbait, swimbait, etc.) it's HARD to practice, but EXTREMELY effective to simply stop dead your retrieve just prior to reaching the boat on EVERY CAST! All too often a wary fish will stalk/follow a bait out of view from the angler and often that last pause will initiate a reluctant strike from a predator believing his prey has suddenly altered its course. Try it! It's a lot harder than it sounds (for more than a few minutes) for most anglers to master.
- TIP** Recreational and weekend anglers put far too much trust in aging line. Changing line of, at least 120 yards or more with militant regularity on all your primary bass reels before most outings will not only enhance casting distance and accuracy, but also save in countless "unexplainable" break-offs... (and subsequent gut-wrenching HEARTBREAKS!)



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Fresh Water

Home

Great Gulp![®]
Trivia Game

Gulp![®] Tackle Box

Expert Panel

Pro Files and Tips

Berkley[®]
Conservation
Institute

Gulp![®] Science

Salt Water



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CATCH MORE FISH

Edition Number 4



**Berkley[®] Conservation
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-- Select Article --

Berkley[®] Conservation Institute

Angling is our customers' passion — a pursuit that depends entirely on a clean, healthy habitat. Which is why we created the Berkley[®] Conservation Institute. We're proud to join our conservation partners in helping anglers and the sport fishing industry work together to ensure greater fishing opportunities for future generations.

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Fresh Water

- Home
- Great Gulp![®] Trivia Game
- Gulp![®] Tackle Box
- Expert Panel
- Pro Files and Tips
- Berkley[®] Conservation Institute
- Gulp![®] Science

Salt Water

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Scientists Name: Keith A. Jones, PH.D.

Specialty: For 18 years, Keith has studied bass intensively as Director of Research at the Berkley Fish Research Center in Spirit Lake, Iowa. The Center is dedicated to the study of bass and other gamefish for the purpose of designing improved lures and baits.

Keith earned his Ph.D. in Biology at Texas A&M University.

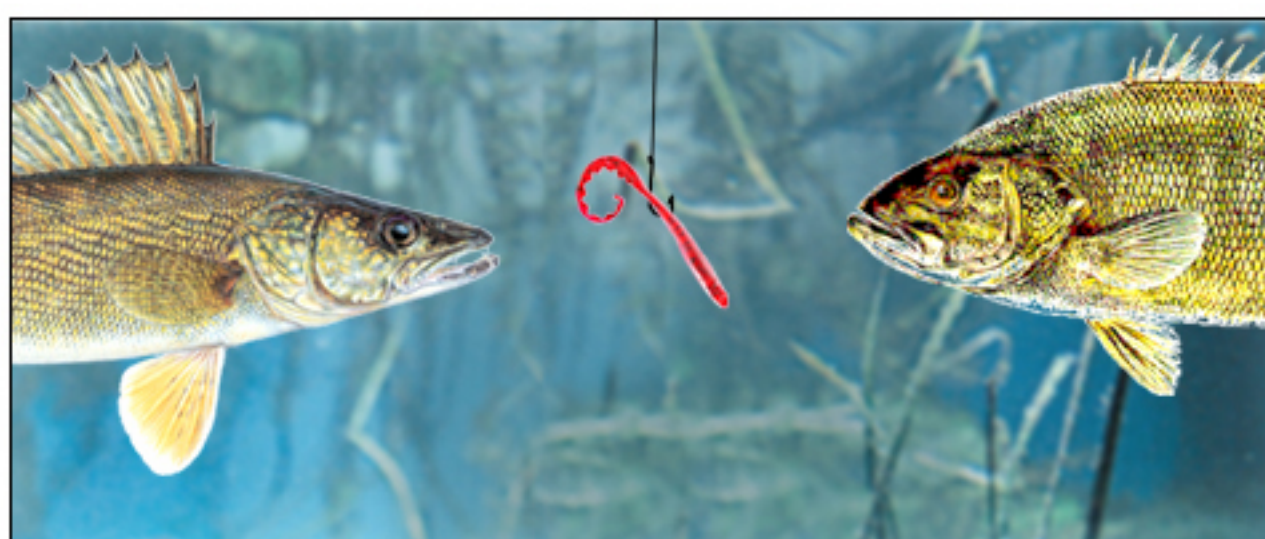
Gulp![®] Science

The Science of Catching MORE Fish

Do walleye see better than bass?

I would say that walleye vision is different but not necessarily better. No fish can master all aspects of vision. To show strength in one area often requires sacrifice in another. And so it is with walleye and bass. Their specific visual strengths and weaknesses have much to do with how their respective retinas are constructed.

The retina consists of a thin sheet of photoreceptors (cells that specialize in converting light to nerve signals) intermixed with various nerve cells for electrical wiring, so to speak. There are two basic types of receptors: rods and cones. Rods act as general light sensors but contribute nothing to color vision. Cone cells come in different forms, each form containing a different color pigment. Both bass and walleyes are known to have red and green cone cells. This is enough to provide them with rudimentary color vision. Rod cells are much more sensitive to light than are cone cells, but cone cells play the dominant role in what might be called "analytical vision", i.e. motion detection, contrast illumination, shape discrimination, depth perception, and visual sharpness.



Now, every photoreceptor occupies a certain amount of space. Since there is only so much total space available in the retinal sheet, the visual abilities of a fish depends heavily on what types of photoreceptors and cells are crowded onto the sheet.

For example, fish retinas made entirely of rod cells would predictably be sensitive to extremely low light levels but have little ability to detect objects, discriminate shapes, see motion, or sense spatial depth. Color vision would be impossible. In contrast, pure cone retinas would manage all the finer attributes of vision in full daylight but be virtually blind at night. Since almost all fish have a mixture of these two light-detectors, visual abilities vary according to the relative densities of these elements across the retina.

Thanks to recent research, we now have data on photoreceptor cell concentrations for both walleye and bass. Since both species have the same basic photoreceptor types, comparing their cell counts provides a valid measure of their relative visual strengths and weaknesses.

Cell counts for the two species show them to have roughly the same cone cell distribution. Both species have their highest cone cell concentrations in the retinal portions closest to the tail. This means that their cone-based (analytical) vision is best looking forward past the nose, worst looking downward and moderate looking upward. For walleye at least, rod vision (i.e. sensing general illumination) follows the opposite pattern.

Overall, the total number of photoreceptors packed into the retina is higher for walleye than bass. Much of this is due to a huge number of walleye rod cells that, to some degree, have crowded out their cone cells. In fact, walleye appear to have fewer cone cells than their bass cousins, meaning that bass have a considerably higher cone-to-rod cell ratio. On average, for every 64 rod cells bass have 8 cone cells, whereas walleye have only 1.

Because cone cells play a greater role in their vision, bass probably have a stronger appreciation for color, see finer details, discern shapes better, and are more sensitive to motion than walleyes, especially between the daylight hours of late dawn to early dusk. However, once darkness falls, the rod-dominant walleyes will rule the roost.

Data adapted from:

M. A. Ali & M. Anctil. 1977. Retinal structure and function in the walleye (*Stizostedion vitreum vitreum*) and sauger (*S. canadense*). *J. Fish. Res. Bd. Can.*, 34: 1467-1474.

M. Garcia & J. de Juan. 1999. Fine Structure of the retina of black bass, *Micropterus salmoides* (Centrarchidae, Teleostei). *Histol. Histopathol.* 14: 1053-1065.

G. Kawamura & T. Kishimoto. 2002. Color vision, accommodation and visual acuity in the large-mouth bass. *Fish. Sci.* 68: 1041-1046.