IOWA CHAPTER OF THE AMERICAN FISHERIES SOCIETY NEWSLETTER
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Newsletter of the Iowa Chapter
of the American Fisheries Society
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The Iowa AFS Business Meeting was held at Fisheries Statewide at Springbrook State Park at 11 a.m. on March 5, 2012. Over 54 chapter members were present. Thanks to all that attended! Past-President Andy Fowler indicated that overall membership was slightly decreased from last year (124 vs. 106 members); thus, please encourage new fisheries professionals to join the society. Providing a gentle reminder to past and/or lapsed members to renew their dues may be in order as well. Highlights of the meeting include that it appears the Chapter is in good financial standing and is expected to be in even better shape following the annual meeting in 2013. The Iowa State AFS Student Subunit has been very active this year. They would like to remind all of us of their desire to assist with fisheries field work as we transition into the new field season. The Continuing Education Committee has initiated discussions regarding holding a turtle identification and biology work shop at Iowa State University in mid-late July of 2012, so please keep this event in mind as it is sure to be a great course for all!

Well, it's been a crazy winter (or lack thereof). It will be interesting to see how the state's fisheries respond to the warmer water temperatures that have ensued as a result of daytime air temperatures that, in some instances, have surpassed 80 degrees. It's looking more and more like walleye broodstock collection will commence at Rathbun Lake the last week of March as opposed to the first week of April. Who'd have guessed? And…the poor crappies are probably confused as to what Mother Nature has in store for them! To top it all off, who ever thought warm weather would be an obstacle for Lake Darling restoration activities? The lake bottom did not freeze solid for an extended period of time due to the unseasonably warm temperatures; subsequently, this prevented heavy equipment from completing sediment removal activities. It's been a hard fought battle at Lake Darling, but the light at the end of the tunnel is within view. There is no doubt that the "new" Lake Darling will be unveiled in the near future, and it is sure to be a showcase for Iowans young and old. One positive benefit of the "early" warm weather is that many anglers have already made a trip to their local streams, ponds, or lakes to try their luck. Their efforts have met with varying levels of success, but some are experiencing outstanding fishing. It's great to see Iowa's anglers taking advantage of the current, albeit unique, weather pattern. Hopefully the added angling opportunities created by the heat wave will "hook" some of Iowa's youngsters for a lifetime!

This year will also be witness to the completion of Lost Grove Lake near the Quad Cities. It's a lake that's been over 25 years in the making. Many fisheries personnel as well as staffs from other DNR Bureaus have contributed to this project by lending expertise in land acquisition and development. This ultimately resulted in shaping the Lost Grove Lake Fish & Wildlife Management Area into what it is today. I am happy to report that the Lost Grove Lake dam is within 12-15 feet of completion and should be finished by late this summer. The fish habitat, rip-rap, and shoreline fishing access portion of the project was completed this past October. The final phase of the project (boat ramp, parking lot, and fishing trail construction) is expected to begin in May, and will be completed in August 2012. The recreational public of the Quad Cities region have long awaited the completion of Lost Grove Lake, and they won't have to wait much longer before this "gem" in southeast Iowa is a reality. Anglers will have the opportunity to fish for bluegill, redear sunfish, largemouth bass, channel catfish, walleye and muskellunge. Although fishing opportunities in the main lake will not peak until 2015 or later, anglers can currently fish in the 220th Causeway Impoundment which has been stocked since 2006. I hope that all of you enjoy the upcoming angling season. Good luck!

Incorporating Tag Loss into Jolly-Seber Open Population Model

Jonathan Meerbeek, Natural Lakes Biologist, Iowa DNR

Introduction: Fisheries managers routinely use capture-recapture data to estimate population size and other important biological parameters. The Jolly-Seber open population model is a capture-recapture model that uses capture-recapture data to develop unique capture histories for individual fish. Well-known assumptions of the Jolly-Seber model are: (1) every animal in the population at a given sample time has an equal chance of being captured in that sample; (2) every marked animal alive in the population at a given sample time has an equal chance of survival until the next sampling occasion; (3) the survival and capture of an animal is independent of the survival and capture of all other animals; (4) marking does not alter behavior or survival; (5) marked animals do not lose their marks and marks are not overlooked. Violation of any one of these assumptions will limit the utility of the Jolly-Seber estimator. Many of these assumptions are met using goodness of fit models or by proper study design. Tag loss is often estimated by double tagging individuals and recapturing fish to determine tag retention over a specified time period and models are adjusted to incorporate tag loss function (Hampton 1995; Jaeger et al. 2005). Since very few tag types used on fish have reported tag retention rates of 100%, the "no tag loss" assumption is often violated in Jolly-Seber models. Approaches to deal with tag loss in Jolly-Seber models have been contradictory. Arnason and Mills (1981) reported that the population estimate for Jolly-Seber models is unbiased as long as tag loss is homogenous. Pollock et al. (1990) also suggested that tag loss does not influence population size estimates. However, others have found that tag loss can seriously bias Jolly-Seber estimates and tag-loss models must be used in studies where tag loss is high and catchability probabilities are low (i.e. < 0.50; McDonald et al. 2003; Cowen and Schwarz 2006). More specifically, population abundance estimates for walleye in Mille Lacs, Minnesota produced from a Jolly-Seber model that did not incorporate tag loss substantially overestimated population abundance compared to those generated from Jolly-Seber models incorporating tag-loss (Cowen and Schwarz 2006). In Iowa, the Jolly-Seber open population model is used to estimate the abundance of broodstock (≥ 17 inches) walleye in natural lakes; therefore, it is important that accurate estimates of abundance are available so proper management actions (e.g. stocking, harvest regulations) can be implemented. Captured

walleye in these lakes were injected with alphanumeric visible implant (VI) tags and annually sampled to obtain capture histories needed to run the Jolly-Seber open population model. We were concerned that walleye populations in these lakes were considerably overestimated because a long-term tag retention study estimated only 58% VI tag retention for walleye (Meerbeek et al 2012, submitted manuscript). The objective of this study was to develop a technique to incorporate tag loss into a Jolly-Seber open population model and compare abundance, survival, catchability, and recruitment estimates to results obtained from an uncorrected tag loss model.

Methods: Walleye were captured in Spirit Lake each year from 1990 to 2011 during annual spawning migration in the spring via gillnets (6 ft x 320 ft x 2.5 in bar mesh) and transported to a hatchery facility where they were measured and tagged. Large-format VI alphanumeric tags (3.5 × 1.5 × 0.1 mm) were injected into each walleye just below the soft clear tissue on the underside of the lower mandible (Bergman et al. 1992). In 2010, small format rigid VI tags were used as the primary tag; therefore, estimates of tag loss are only applied to those fish tagged between 1990 and 2009. Recaptured walleye were recorded and measured. All tagged walleye were released back into the lake. Data was entered in a database and population dynamics data (i.e. abundance, survival, catchability, and recruitment) was estimated using the Jolly-Seber open population model (Seber 1982).

The total length logistic regression model for walleye VI tag loss was used to estimate the probability of each newly tagged walleye to lose the VI tag (p(loss); Meerbeek et al., submitted manuscript); where:

$$p(\text{loss}) = 1 - [(e^{-3.1519 + 0.1575(TL)} \setminus (e^{-3.1519 + 0.1575(TL)} + 1)]$$

The probability of tag loss was multiplied by the estimated annual survival rate (phi), and the estimated

catchability (p) to estimate the probability of fish that lost a VI tag would survive to $T_{(i+1)}$ and be caught (Q_i). Since survival and catchability estimates from the "tag-loss biased" model may be inaccurate, annual survival and catchability was estimated using data from the double VI tagging experiment. The software program MARK (White and Burnham 1999) was used to develop a recaptures only multi-state model including the covariate total length and Akaike's information criterion (AIC) was used to select the best fit model of tag loss (Akaike 1973). The model that best fit the data had constant survival (0.6121419) and catchability (0.136504) and since these were the most unbiased parameter estimates, these were used as a constant in the tag-loss model for Spirit Lake. The number of walleye that would have been captured if they retained their tag, survived, and were caught was estimated for each year and for successive years by the formula:

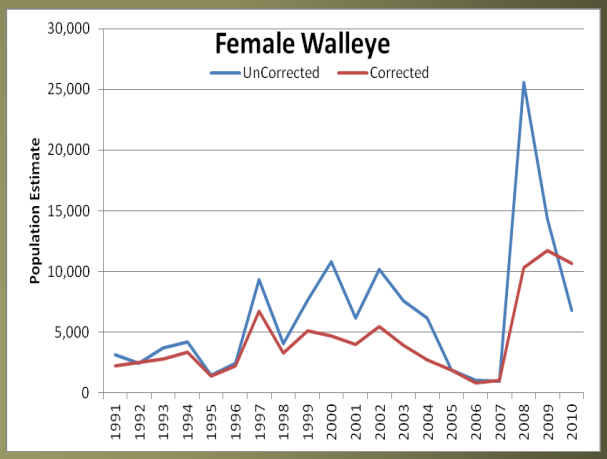
(N of newly tagged fish T_i) – (N of recaptures $T_{(i+1)}$) * Q_i

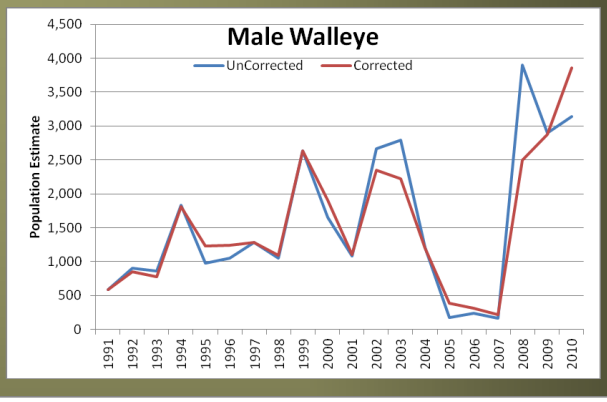
The estimated number of walleye that would have been captured in successive years was calculated using the above formula and multiplying by an additional survival parameter (0.6121419) for each additional year. Using these formulas, capture history for fish that lost their tag and would have been captured each year was estimated and added to the already existing capture history database for females, males and all walleye and program Jolly was used to estimate population parameters. Estimates of abundance, survival, catchability, and recruitment for corrected and uncorrected tag loss data were plotted against each other to examine linear relationships.

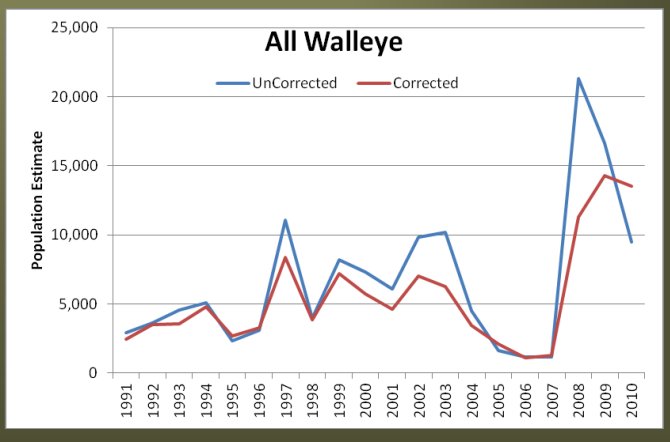
The model was tested using the double tagging experiment, observations of walleye with dorsal fin clips but no tag (DFCLT), and by linear regression of gillnet catch rates and abundance. Since the probability of double tagged fish to loss both tags was low (probability of 0.09; Meerbeek et al. 2012), the double tagging dataset was used to validate the model estimates by comparing Jolly-Seber population estimates derived from all fish (i.e. retained both tags, left tag, or right tag) to those calculated using the right tag only model (i.e., retained both or right tag) and the right tag model adjusted for tag loss. In addition, the number of walleye each year with DFCLT was recorded and the estimated number of fish that would have been recaptured if tag loss was not problematic was compared. Finally, abundance estimates from both the corrected and uncorrected models were regressed against gillnet catch per net.

Results: Average annual recapture probability of walleye that lost a tag (Q_i) ranged from 0.027 to 0.044 for female walleye and 0.037 to 0.047 for males. An estimated 549 female and 380 male walleye were recaptured since 1990 that would have been marked if tag retention was high (>95%). The highest number of estimated numbers of fish missed due to lost tags occurred in 1997, 2008, and 2009 for females and 1999 for males (i.e. high sample sizes of fish in those years).

Figure 1. Walleye abundance estimates from corrected and uncorrected tag loss data using the Jolly-Seber population model, 1990-2011.







On average, the uncorrected Jolly-Seber population model overestimated the number of female walleye by 2,474 fish, but males only by on average 73 fish. All linear regression models comparing corrected and uncorrected population parameter estimates (abundance, survival, catchability, and recruitment) were significantly correlated (r^2 >0.64; $p < 0.0001$), thus supporting the corrected model trends. When walleye abundance was low (<5,000 fish), little differences in the uncorrected and corrected models were observed (Figure 1). Conversely, the uncorrected model often overestimated population size as abundance exceeded 5,000 fish. This was especially true for female walleye.

Model Testing: Walleye population abundance estimates in 2006 based on the double tagging dataset was overestimated by 1,477 (SE = 1,516) fish using the right tag only model and only by 381 fish (SE = 770) using the right tag corrected model. Since recapture rates were relatively low and no additional fish were marked after 2006, confidence limits on abundance estimates following 2006 were high. The right tag corrected model abundance estimates were closer to the complete model estimates and standard errors were typically lower.

The number of walleye caught each year that had DFCLT was significantly correlated with the number of walleye estimated to have lost a tag and were recaptured ($r^2 = 0.334$; $p = 0.0095$). However, the estimated numbers of walleye were higher than what was observed in the hatchery.

The corrected model was also tested by comparing linear regression estimates of walleye catch per gillnet and abundance. The uncorrected model abundance estimates regressed against walleye catch per net during the annual spring gillnetting season was significantly correlated ($r^2 = 0.48$; $p = 0.0007$). Likewise, the corrected model abundance estimates were also significant ($p < 0.0001$), but more of the variation was explained in the corrected model ($r^2 = 0.83$). Since catch-per-effort and population abundance is generally highly correlated, the corrected model may be an appropriate model for walleye tagged with VI tags in the Iowa Great Lakes.

Key Findings:

- Both the corrected and uncorrected models showed the same trends in walleye abundance, catchability, survival and recruitment
- The uncorrected model had abundance estimates much higher than the corrected model. These differences were greatest at higher population estimates (> 5,000 fish).
- Female walleye abundance tended to have a higher chance of overestimation.
- The corrected model population estimate was more precise when compared to the uncorrected abundance estimate when using the double tagging dataset.
- The corrected model may be overestimating the number of walleye that lost a tag and were recaptured.
- The corrected model was significantly related to gillnet catch per net and explained more of the variation in the linear regression model than using the uncorrected model.
- Based on the analysis, the corrected model is an appropriate model to estimate walleye abundance in the IGL.

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CONSERVATION AND RECREATION DIVISION | NEWS.IOWADNR.GOV

Modified Two-Hook Alabama Rig Meets Iowa Fishing Laws

A new fishing lure may be catching more anglers than fish and is generating quite a buzz on message boards and sports shows across Iowa.


Photo: bassmaster.com

The Alabama Rig, as it is called, is an umbrella-type rig and consists of a weighted head with five wire leaders trailing behind. Each wire leader can be used to attach lures which when pulled through the water will simulate a school of baitfish. This new rig has been featured on competitive fishing shows, in magazines and fishing seminars for the past year. It is now sold in major outdoor sports stores in various states which brings the question of, is it legal?

"There has been a lot of confusion over this rig and how it fits or doesn't fit in our laws," said Joe Larscheid, chief of the Iowa Department of Natural Resources Fisheries Bureau. "In Iowa our anglers are limited to two hooks per line so the fully-rigged Alabama Rig would be illegal to fish with in Iowa. However, anglers may use a two-hook version of the Alabama Rig in which five baits are attached to the rig but only two of these baits have hooks.

"The Alabama Rig is used primarily for largemouth bass and some bass tournaments have already banned the use of it during their tournaments," he said. "Our officers are aware of the rig and just as they do with all of our fish and game laws, they will be checking for compliance."

MEDIA CONTACT: Joe Larscheid, Chief of Fisheries, Iowa Department of Natural Resources, 515-281-5208.

Asian Carp Caught in East Okoboji, Spirit Lakes

SPIRIT LAKE, Iowa - A commercial fishing company caught 55 silver carp and 82 big head carp on March 28 and 29, fishing in the same general area of East Okoboji Lake where two big head carp were netted by the Iowa DNR last August during a population survey.

On April 3, one silver carp was caught by the same commercial angler in Spirit Lake. A second netting effort on April 4 in the same East Okoboji Lake location resulted in only two bighead carp and two silver carp.

Mike Hawkins, fisheries biologist with the Iowa Department of Natural Resources, said the invasive fish had a small window last summer in which to enter the Iowa Great Lakes. Flood events in June and July allowed the fish to navigate the Little Sioux River past the Linn Grove Dam, landing at the doorstep of the Iowa Great Lakes.

Once below the Iowa Great Lakes, heavy rain events in July caused flooding conditions on the lakes that allowed these fish to enter Lower Gar Lake, which is the final lake in the chain of six glacial lakes in Dickinson County.

"While it confirms the presence of both species, this commercial seine haul does not tell us how many Asian carp are in the lakes. Nor does it get us any closer to knowing at what level these fish will be a problem.," Hawkins said.

The DNR has been working with their partners to prevent additional invasive carp from entering the lakes.

Fundraising to pay for an electronic fish barrier at the Lower Gar outlet has passed $600,000. Hawkins said information on different barriers is due April 9 from prospective companies that will explain the potential systems and more accurately set out the final cost. Preliminary estimates put the barrier in the $700,000 range.

"I can't say enough about the effort our local partners have invested in this project," Hawkins said. "We are working to get the barrier in place as quickly as possible but there is a process to this and we need to do it right. These are complicated and sophisticated devices and this will be a major construction project."

Since the flooding at the lakes in July 2011, the lake levels have fallen below crest, lowering the threat of any additional carp from entering the lakes.

"Our greatest fear is that these fish could impact recreation and the ecology of the lakes. Looking back however, we know we experienced at least part of a season with them in the lake without incident," Hawkins said.

While both species are problems for the fisheries, silver carp are more of a concern for boaters because of their tendency to jump out of the water and can grow to more than 50 pounds.

"Ecologically, these fish are filter feeders and will compete with young fish for food. They are not likely to reproduce here because studies show they prefer large rivers for spawning," Hawkins said.

While anglers are not likely to catch one of these fish because they are filter feeders, if it does happen, Hawkins said they should bring them to the Spirit Lake Hatchery.

The invasive carp were removed from the lake and utilized by a local fish processing company.

MEDIA CONTACT: Mike Hawkins, Fisheries Biologist, Iowa Department of Natural Resources, 712-336-1840; or Joe Larscheid, Chief, Fisheries Bureau, Iowa Department of Natural Resources, 515-281-5208.

Juvenile Hybrid Striped Bass Identification

Mark Richardson, Iowa DNR

So you have managed to collect a net tub full of *Morone's*, all from 6 inches to 14 inches long. Some of them are white bass for sure, but what about those hybrid striped bass (hybrids) that were stocked in here? Some day soon they'll be easy to pick out, but you have them in hand today. How do you separate the white bass (whb) from the hybrids and record them? This is a problem that Ryan Lueckenhoff of University of Nebraska-Lincoln (advisor Kevin Pope) chose to accept as a Masters project and came up with a solution that can be used in the field rather easily. For complete details see Ryan's thesis at http://snr.unl.edu/necoopunit/downloads/Theses/Lueckenhoff_thesis.pdf).

Opportunity for evaluation of this technique came this last fall/winter. The Boone Fisheries Management crew and the Chariton Fisheries Research staff were interested in the growth of hybrids in the Des Moines River system reservoirs and targeted them with fall gill netting to collect some sample fish. Blustery fall weather and uncertainty about the true identification of each fish lead to the *Morone* spp. being bagged and frozen for "later examination and evaluation". Age structures were collected from hybrids and identification techniques were evaluated on 200 fish.

Three identification techniques were chosen:

1) body markings and stripes,

2) tooth patch shape and separation

3) body morphology (measurements), specifically the ratio of caudal peduncle depth to standard length of the fish.

It was quickly established that body markings and

pigmentation patterns were not definitive as they varied greatly among individuals. The presence of, absence of, brokenness, and wavy appearance of lines on the bodies all appeared on both hybrids and whb. The lateral line appeared on both as unbroken; that was consistent, but not helpful.

The tongue tooth patch or patches were also examined. The tooth patch on the rear of the tongue is one patch for whb, but two separate patches for the hybrids.

In order to get a close look at tongues, they were removed from the fish and examined under magnification. One of the more helpful tools in examining these tooth patches was a laboratory "teasing needle" or pointed probe. The teeth could be felt with the probe even when they were not easily seen. The two tooth patches are found in mature adult hybrids, and the larger the fish, the better the separation and ease of seeing this feature. However by the stage at which this is definitive, hybrids are easily larger than most whb in the same water body. On juvenile fish, the size and shape of the patch, pigmentation or lack of it, or a toothless partial groove in the tooth patch make this method unreliable for all but large adult fish.

The method that Lueckenhoff recommends for a 98.9% accuracy of identifying these fish is the ratio of caudal peduncle depth to standard length of the fish. The standard length was defined as the distance from the tip of the snout or upper lip of the fish to the caudal end of the lateral line. The depth of the caudal peduncle is the midpoint between the anterior end of the base of the

dorsal fin and the point at which the top of the tail fin rays begin, and the midpoint between the anterior end of the base of the anal fin and the point at which the bottom of the tail fin rays begin. It's easier if you don't over think this. The tool of choice for this is a ***24"Jumbo Aluminum Caliper***, (#96509) found at Harbor Freight Tools for about $10. Divide the standard length by the peduncle depth. If the ratio is <= 7.30 then the fish is a whb. A fish with a ratio of 7.31 and larger is a hybrid. While care should be exercised when taking these measurements, the test seems to be fairly robust. For fish with a ratio from 7.20 to 7.40 a careful re-measurement may be a good idea. Other identifying characteristics may be checked but they may not prove helpful or conclusive. In a pinch rely on the 7.30 ratio as your tipping point as it will be right 98.9% of the time, which beats guessing.

Hopefully this will help with the identification of these excellent sport fish. If you happen to get an adult hybrid on hook and line they will introduce themselves in a way that will leave no doubt in your mind!

New State Record Yellow Perch

Travis Peterson, an 18 year old high school senior at Dubuque Hempstead, caught the state record Yellow Perch Tuesday, March 13th. This week is their spring break and he has been spending it fishing. Travis caught the fish while fishing from shore in the tailwaters of Lock & Dam 12 in Dubuque. The fish was caught with a spinning rod and reel while casting an 1/8 ounce jig tipped with a twister. Not only did Travis catch the state record yellow perch but he was also catching walleye, sauger and northern pike. This is an excellent time of year to fish below any of the Mississippi River dams. Many species of fish are moving to or from their spawning areas and are concentrated in the areas below the dams. Get out there, go fishing and enjoy the weather, you never know, you may also catch a state record fish.

Fish Trivia— www.ieyenews.com

1. We all know that fish travel in schools, but do you know some other plural fishey names?
   A. Clutch
   B. Shoal
   C. Draft
   D. Wave
   E. All of the above
   F. None of the above
   G. B and C

2. Can you name the phobia that means a fear of fish?
   A. Ichthyophobia
   B. Limnophobia
   C. Entomophobia
   D. Pantophobia

3. How do fish hear?
   A. They don't
   B. Through sound vibrations reverberating through the bones of their skull
   C. Through their gills
   D. Through their fins

4. What do you call a baby fish?
   A. A guppy
   B. A fry
   C. A minnow
   D. A baby fish

5. How do Anarctic icefish survive in freezing water?
   A. Special antifreeze chemicals in their blood
   B. Extra layers of fat which earned them the nickname "Puffy Fish"
   C. Constant high level of motion to keep blood circulating
   D. There is no such fish

Photo: www.theozonehole.com

6. Just how much hot water can fish take?
   A. Pot boilers in Ecuador survive in hot springs approaching 200 degrees Fahrenheit
   B. Desert pupfish found in hot springs of western North America live in temperatures higher than 100 degrees Fahrenheit
   C. Some fresh-water fish can take temperatures up to 80 degrees Fahrenheit without difficulty
   D. Anything over 60 degrees Fahrenheit causes distress

Photo: www.travelpod.com

7. How high can a flying fish fly?
   A. 6 feet
   B. 36 feet
   C. 60 feet
   D. 360 feet

8. Just how fast can a fish swim?
   A. Never over 40 mph
   B. Barely 50 mph
   C. About 60 mph
   D. Over 70 mph

9. Known as one of the fastest fish, tunas are also built for long-distance endurance. How far do tuna migrate?
   A. 7700 miles
   B. 770 miles
   C. 77 miles
   D. 7 miles

Answers:

1. G. B and C
2. A. Ichthyophobia
3. B. Through sound vibrations reverberating through the bones of their skull
4. B. A fry
5. A. Special antifreeze chemicals in their blood
6. B. Desert pupfish found in hot springs of western North America live in temperatures higher than 100 degrees Fahrenheit
7. B. 36 feet: Their flight may consist of several glides, in which they repeatedly return to the surface of the water long enough to renew their propelling power. They rise to a maximum of about 36 feet into the air and glide as far as 200 yards.
8. D. Over 70 mph
9. A. 7700 miles: Swimming as fast as 30 mph, they migrate as far as 7700 miles in only four months.

IN THE NEWS

Tagged yellowfin recaptured after 9 years

South Carolina DNR press release:

The recent reporting of th recovery of a tagged yellowfin tuna comes as a surprise to fisheries biologists.

The tag, sent from the National Research Institute of Far Seas Fisheries in Shizuoka, Japan, was just received by the S.C. Department of Natural Resources' (DNR) Marine Resources Division.

The tagged fish measured about 68 inches, weighed approximately 189 pounds, and was captured on May 26, 2010 off the west coast of Africa off Mauritania.

The fish was initially tagged by a volunteer angler participating in the Marine Division's game fish tagging program on April 20, 2001, just south of Cat Island in the Bahamas. At the time of tagging, the juvenile yellowfin was just shy of 15 pounds.

This is the first recapture of a yellowfin tuna in the history of the program, which began in 1974.

"What makes this recovery exciting," said Robert Wiggers, a DNR fisheries biologist who administers the tagging program, "is that 151 yellowfin have been tagged and released by volunteers, but none have been recovered until now.

This fish was at large for nine years, packed on about 174 pounds and was recaptured close to 4,000 miles from where it was initially tagged."

Photo: google images

As evident from this tag recovery, Atlantic yellowfin tuna are a highly migratory species and thus are a target species for both domestic and international fisheries. This fact should be of interest to recreational anglers when considering the impacts on the overall population of such fisheries.

Photo: http://www.spc.int/tagging/

Study Pegs Cost to Keep Asian Carp out of Great Lakes at $3 Billion

Congress would have to fund effort to reroute commerce and build barriers to keep Asian carp out.

January 31, 2012

Photo: www.asiancarp.org

Keeping the Asian carp from getting into the Great Lakes via Chicago area waterways would cost $3 billion and would take 10 years to complete, according to a privately funded study commissioned by several foundations. The $2 million study proposes building from one to five barriers near Chicago, rerouting cargo and pleasure boats, and diverting floodwaters from going into Lake Michigan by building tunnels and sending the water elsewhere.

The federal government has spent more than $80 million to fight the Asian carp in the last two years, according to USA Today, and $20 million is spent each year to fend off the sea lamprey, another invasive species in the area. The study points out that Congress would have to fund the building of the barriers as well as the tunnels that would reroute floodwaters. The proposal calls for rerouting barge traffic and requiring boat lifts for pleasure boats and tour boats, which currently easily enter Lake Michigan from docks and marinas south of Chicago. This practice would end.

There are concerns among those in the scientific community that if the Asian carp were to get into the Great Lakes, irreversible and expensive damage would occur. Barge operators and tour boat captains believe this proposed solution is ludicrous, saying that there are 18 other waterways into the Great Lakes that the Asian carp could potentially use to gain entry into the water system.

Shutting down this one multibillion-dollar transportation route does not even address the 18 other waterways in and out of the Great Lakes that could serve as entry points for invasive species, Mark Biel, executive director of Unlock Our Jobs told USA Today. Calling this a solution is ludicrous. Unlock our Jobs is a coalition of barge operators and others who are against any changes to Chicago's waterways.
An Army Corps study backs the claim of the tour boat and barge operators, citing more than 12 waterways that could be used by the carp to get into the Great Lakes. The Army Corps is conducting its own study, due out in 2015, on how to stop invasive species from entering into the Great Lakes. Its study will also feature separating the waterways.

World's Tiniest Chameleon Discovered

SCIENTIFIC AMERICAN™

By Andrea Mustain and OurAmazingPlanet | February 15, 2012 | 1

A species of chameleon small enough to easily perch on a match head has been discovered on a tiny island off Madagascar, a group of scientists has announced.

In addition to the discovery of *Brookesia micra*, now the tiniest chameleon ever discovered, the researchers also announced the discovery of three additional tiny chameleon species.

Adult males of the *B. micra* species grow to only just over a half-inch (16 millimeters) from nose to bottom, making them one of the smallest vertebrates ever found on Earth.

From nose to tail, adults of both sexes grow to only 1 inch (30 mm) in length.

Lead researcher Frank Glaw said the team already had experience finding tiny lizards in Madagascar, "but it was also good luck."

The team searched for the tiny lizards under the cover of darkness, using headlamps and flashlights to seek out the sleeping chameleons. All four species are active during the day, and at night climb up into the branches to sleep.

But for such tiny critters, "up into the branches" means a mere 4 inches (10 centimeters) off the ground, Glaw told OurAmazingPlanet, so finding them is no easy task. However, once spotted, the tiny lizards aren't tough to catch, Glaw said.

"They are sleeping and you can just pick them up. It's like picking a strawberry, so it's easy," Glaw said. "They do not move at all at night."

The team of scientists found the tiny reptiles in Madagascar's wild northern regions during expeditions between 2003 and 2007. For three of the species, "we immediately identified them as new species," said Glaw, a veteran herpetologist and curator at the Museum of Natural History in Munich.

"In general, these tiny chameleons are so small that it's really hard to see the small differences with the naked eye," he said.

The researchers warn that at least two of the newly-discovered chameleon species are extremely threatened because of habitat loss and deforestation in Madagascar.

Glaw, who has been going to Madagascar to research its ever-expanding list of amphibians and reptiles for a quarter century, said that *B. micra* may represent the limit of miniaturization possible for a vertebrate with complex eyes, but said it's impossible to know for sure since each time scientists have proclaimed the discovery of the tiniest one yet, another, tinier species appears.

"Maybe there's a potential for a smaller species," Glaw said.

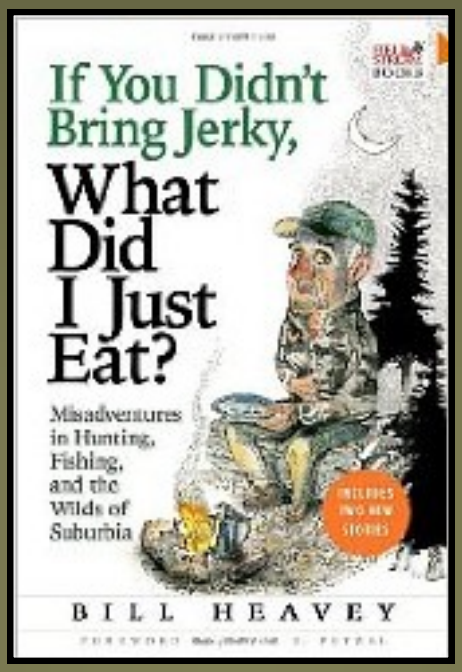
Another group of researchers recently announced the discovery of the world's smallest frog species in Papua New Guinea. The scientists also declared it the world's smallest vertebrate, but others contend that a species of angler fish is the smallest vertebrate yet discovered on Earth.

Glaw is planning another expedition to the region of Madagascar in November.

"I'm sure there are many surprises awaiting discovery," he said.

The research is published in the Feb. 15 issue of the open access journal *PLoS ONE*.

INTERESTING READS



If You Didn't Bring Jerky, What Did I Just Eat?: Misadventures in Hunting, Fishing, and the Wilds of Suburbia

Author: Bill Heavey

For nearly a decade, Bill Heavey, an outdoorsman marooned in suburbia, has written the "Sportsman's Life" column on the back page of *Field & Stream*, where he does for hunting and fishing what David Feherty does for golf and Lewis Grizzard did for the South. His work is adored by readers—one proclaims him "the greatest sportswriter who has ever walked the planet," and another recently wrote in to nominate him for president of the United States in 2008—and his peers have recognized his work with two prestigious National Magazine Award nominations. *If You Didn't Bring Jerky, What Did I Just Eat?* is the first collection of Heavey's sidesplitting observations on life as a hardcore (but often hapless) outdoorsman. Whether he's hunting cougars in the southwest desert, scheming to make his five-year-old daughter fall in love with fishing, or chronicling his father's slow decline through the lens of the numerous dogs he's owned over seventy-five years, Heavey is a master at blending humor and pathos—and wide-ranging outdoor enthusiasms that run the gamut from elite to ordinary—into a poignant and potent cocktail. Funny, warmhearted, and supremely entertaining, this book is an uproarious addition to the literature of the outdoors.

Iowa Chapter of the AFS Annual Business Meeting
Iowa DNR Fisheries Statewide Meeting – Springbrook State Park
11 am, Monday, March 5, 2012

CALL TO ORDER
The meeting was called to order by President Chad Dolan. Chad Dolan introduced EXCOM: President-elect: Kim Bogenschutz, Secretary/tTeasurer: Andy Otting, Past President: Andy Fowler, and NCD Representative: Randy Schultz. In attendance at the beginning of the meeting were 54 chapter members.

TREASURER'S REPORT

Treasure's report was given by Andy Otting. The chapter started the year (1/11/11) with a balance of $2,126.36. Disbursements since the last financial report equaled $11,950.81 and receipts equaled $17,286.56. Currently the Iowa Chapter has a balance of $7,462.11. Noteworthy activity on the account included 2011 and 2012 REAP Alliance dues $150, $100 for the Iowa Environmental Council, $100 to Iowa Conservation Alliance, $500 ISU scholarship presented to Mariah Morrison, Minnesota AFS 2012 $250 donation, $500 Fisheries Grant to Lost Grove Lake, $250 Fenske Award match at Midwest FWC, and $50 to Jeff Kopaska for Trout Survey participant prize. Receipts came mainly from dues, registrations, raffles, and auctions collected at the 2011 Iowa AFS/TWS Joint Meeting at Honey Creek Resort, Age and Growth Continuing Education course held in Ames, IA and the Midwest Fish and Wildlife Conference held in Des Moines, IA.

Proposed budget keeps payments to Iowa Environmental Council, REAP Alliance, Iowa Conservation Alliance and 2011 ISU scholarship. Additionally up to $1,000 will be given in Fisheries Grants in 2012 at the discretion of the EXCOM. The projected account balance following the 2013 Iowa AFS Annual Meeting is expected to be ~$9,200. Jim Wahl motioned to approve the financial report and proposed budget, Martin Konrad seconded. Unanimous vote, budget approved.

COMMITTEE REPORTS

Audit: Ben Dodd. Ben Dodd reviewed and approved the financial report**.** Andy Otting does not appear to be embezzling AFS funds!

Resolutions committee: Don Herrig/Donna Muhm.
Donna noted that Iowa Chapter AFS voted unanimously to not ban lead fishing tackle.

Continuing Education Committee: Clay Pierce.
Clay Pierce was not present. Chad Dolan introduced the idea of a Turtle ID and Biology workshop to be held at Iowa State University. Possibly a 2 day course in mid to late July with half day in the lab, half day setting turtle trapping gear and one day checking the gear.

Nominations:
Gary Siegwarth nominated as nominations chair. All approved. Gary not present to contest.

Student Subunit:
The subunit currently has a balance of $2,000. They are preparing for their VEISHA display. They have donated $150 to the NREM banquet. They are designing two more fish species posters for lakes and rivers. Looking for volunteer opportunities and willing to come out and assist during fisheries field work.

Membership: Andy Fowler. There was a decrease in membership this year from 124 to 106 members.

Program Committee: Kim Bogenschutz.
Seeking input for next year's Iowa Chapter AFS meeting. Jim Wahl mentioned a possible meeting with Nebraska to be held

in Council Bluffs. Jim asked Van to look into Council Bluffs for meeting locations, Van recommended meeting with Wisconsin!

Technical Committee Reports

Walleye Technical Committee: Donna Muhm.
Donna reported that the joint summer meeting with Esocids and Centrarchids held in Dubuque, IA was well attended. There will likely be a similar joint meeting held in Northern Minnesota in 2012.

Centrarchid Technical Committee: Lewis Bruce.
Joint meeting was held with Esocids and Walleye in Dubuque, IA. Roughly half a dozen members met at the Midwest FWC. Possible topic for 2012 meeting will be Regulations and Angler Perceptions.

Esocid Technical Committee: Jon Meerbeek.
Joint meeting was held with Walleye and Centrarchids in Dubuque, IA. Six members met at the winter business meeting held at the Midwest FWC. Jon was elected Chair until December 2012. Little planning has been done for the summer 2012 meeting. The meeting may be held near Hayward, Wisconsin.

Rivers and Streams Technical Committee: Greg Gelwicks.
No report.

Ictalurid Technical Committee: Dan Kirby.
No report

Fish Culture Section: Alan Johnson
Working to increase membership in the Fish Culture Section of AFS. They now have a news letter and website. Introducing new cell phone applications for fish drug treatments. The Fish Hatchery Management book is being redone. Jay announced it is only $2 to join the fish culture section if already an AFS member.

Lead Tackle Statement: Mark Flammang
Results of the lead statement voting are available on the Iowa AFS website. Inquisitions for the statement for use with the legislature were received from multiple parties including Iowa Outdoor Partnership and Congressional Sportsmen Caucus. Iowa AFS sent the position statement to the Parent Society, which remains undecided on the issue.

NCD: Randy Schultz
Membership can currently vote for new NCD President. Randy Schultz encouraged the election of Joe Morris.
25 year AFS pins were awarded to Joe Larscheid, Don Herrig, and Jim Wahl.

Awards:

Marion Conover was presented with the 2010 North Central Division Fisheries Excellence Award at the 2011 Midwest FWC.
2011 Best Professional Paper: Jon Lore
2011 Best Student Paper: Anthony Sindt
2011 Best Student Poster: Jesse Fischer
Past President: Andy Fowler

Old Business:
Chad Dolan presented the financial outcome of the Midwest FWC showing a chapter profit of just over $1,800.
Jeff Kopaska thanked Iowa AFS for the $50 donation towards the Trout Survey prizes.

New Business:
Jim Wahl mentioned that if Chapter funds allow, possibly consider student travel grants for the 2013 meeting if it is not held in Ames.

Adjourn.
Randy Schultz motioned to adjourn, Van Sterner seconded. Passed - unanimously.

Application form

Fisheries Project Grant

Iowa Chapter – American Fisheries Society

Project Name:_____

Project Description:_____.

_____

_____

_____

Attach map or supplementary information

Project Location:

Water Body:_____

Address:_____

_____County:_____

Start Date: _____ End Date:_____

Project Personnel:_____

_____

Fisheries Benefits:_____

_____

Iowa Chapter Representative: _____

Amount needed: $ _____.____ Total project cost: $_____.____

Money will be used for: _____

_____

_____

_____

Up to $1,000.00 per project.

Approved by Excom Committee Date:_____

The Iowa Chapter of the American Fisheries Society is offering to help finance worthwhile fisheries related projects. The completed application form needs to be transferred to the Iowa Chapter President by an Iowa Chapter Member.

Project Name – Give the project name.

Project Description – Give a brief review of the intended project. Include the work to be done, the methods and material that will be used in the project.

Attach a map and any supplementary information that you think will help the Excom Committee evaluate the project.

Project Location – Where will the work be done.

Start and End dates for the project. Month and calendar year will do.

Project Personnel – Include organizations and or individuals who will be directly involved in the work.

Fisheries Benefits – A very important part of the project should be direct benefits to Iowa's fishery. How does the project help and who is the beneficiary?

Iowa Chapter Representative – All projects need to have and Iowa Chapter member as a sponsor.

Amount needed – Tell us how much you need and the total project cost.

Money will be used for – Be as specific as you can. Will the money be used to hire people, buy, equipment, be seed money for a grant, etc.

There is a $1,000.00 limit for each project.

The Excom Committee of the Iowa Chapter will review the application and approve or reject the request.