



FISH-FRIENDLY COMPETITIONS: DOING MORE THAN JUST CATCH-AND-RELEASE

by Sven M. Vrdoljak

The Valley Classic is an annual informal fishing competition held amongst guides, managers and owners of Lower Zambezi Lodges. What started out as a year-end get together has evolved into a great opportunity for the valley community of guides and managers to give something back and contribute to the protection of the amazing place that they live and work in. In 2013 the LZCRI also used the competition to demonstrate some principles for the design of more fish-friendly competition formats that integrate data collection and reduced impact on fish populations, yet still remain challenging and fun.



The Valley Classic started out in 2010 as an end of year get together and fishing competition for guides and managers from the lodges in the Lower Zambezi National Park and adjacent game management area. Held annually at Wildtracks Lodge the event is a chance for everyone to relax, share their stories of the season, do some fishing without having to worry about guests for a change. The competition is also used to raise money for conservation in the valley. An annual team auction is held, the proceeds of which are donated to a local conservation NGO, Conservation Lower Zambezi. This year LZCRI also decided to use the competition to test out a format that minimises the stress on the fish while maximising the return on valuable fishing data collected.

Fishing competitions might often seem to be at odds with fish conservation as they introduce a brief but intense burst of fishing pressure. There are however many ways to manage these impacts and turn competitions into an opportunity rather than a threat. The first measure is of course to ensure that the competition is a catch-and-release one, especially if the competition is to be held in or near to a conservation area. One of the drawbacks of more traditional fishing competition formats is that they often focus on that fisherman's obsession with size. Bigger has traditionally been better and this means that even for catch and release competitions there is often an official weigh-in. A well managed, live weigh in can significantly reduce fish mortality, but this still necessitates keeping fish

alive for long periods of time, the stress and trauma associated with additional handling and the problem that even though the fish are released, this will often be far away from where they were caught. With a little bit of angler education, some creative rule making and use of points system that do not place as much emphasis on size as a measure of angling skill it is still possible however to come up with competition formats where the stress associated with physical weigh in of fish can be avoided. What's more, this type of competition can still be challenging and fun for the participants and provide another platform to demonstrate why there really is no need to keep the fish that we catch for fun, even in competition.

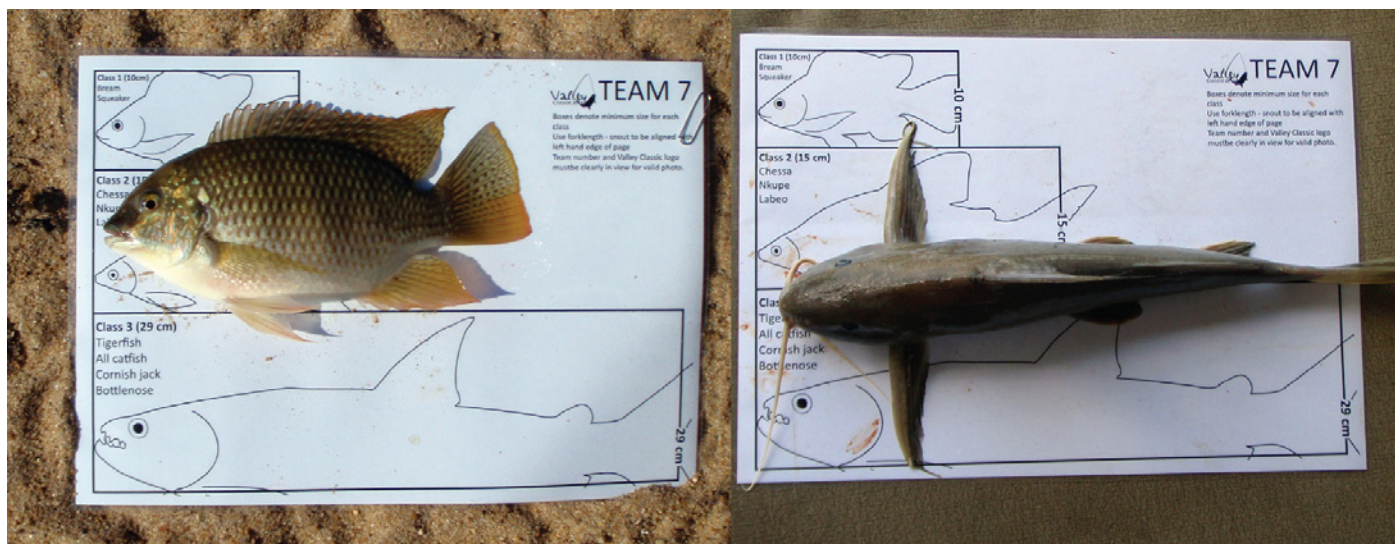
The Valley Classic uses a "paper weigh-in" approach where all catches are released immediately after being photographed. As in previous years, the competition was a species bash with an emphasis on catching the largest variety of fish rather than the largest single fish. Almost any species counted as part of the bag and the really big points came from maximising your catch across as many species as possible. In addition, bonus points were awarded for different species at different times of day, further encouraging teams to target different species throughout the day. This means that anglers had to test their skill using a range of techniques, tackle and knowledge of the habits and habitat of a wide range of Zambezi fish species, from imber and chessa along the river bank to tigerfish and vundu in the open water. All catches had to be photographed against a competition fish-board issued on the day, which showed the minimum size for each species group and ensures that photos are taken on the actual day of competition. To count, photos had to be accompanied by a completed entry on the competition log sheet indicating species, length, release status and other information for each catch. The purpose of the standardised recording was twofold. It made collection and verification of catches by the judges simpler, streamlining



The paper weigh-in, where fish are photographed, recorded and released immediately rather than physically brought in either live or dead for a physical weigh in is a good strategy for reducing mortality in fishing competitions. Standardised record keeping using well designed catch logs also help streamline the points tally and scoring at the end of the day.

the virtual weigh-in at the end of the day, and also meant that the data could easily be collated and added to the database of catch records for the Lower Zambezi.

With some very basic data manipulation and a spreadsheet set up in advance, the standardised data format makes it possible to enter catch records as teams weigh in and generate catch statistics on the fly. This way it is very easy to assess the performance of different teams, add up points, assess the number of fish caught across different species and get an idea of the impact of the competition in terms of fish released vs fish retained. Aside from the basic statistics about the competition, with larger competitions or if data are consistently recorded and maintained across years for annual competitions it is possible to build up a data set large enough to run different analyses such as length-weight relationships for different species, trends across different years and patterns of angling success at different times of day.



Because competition photographs are standardised, these are also a valuable resource that could be mined for additional data such as morphometrics (the size and characteristics of various body parts), condition assessments, verifying angler ability to estimate fork-length, or looking for signs of disease or parasites.

The difference between catch records from fishing competitions that languish forever in the dusty corner cupboard of a fishing club office or worse still, are thrown away immediately and those records that become a useful resource lies largely in the way that the data are collected and collated. This comes down to good organisation and planning. Good data collection does not entail any great additional costs for organisers or participants as there is no need for any extra equipment than a digital camera. Pen and paper remains the simplest and most robust means of data collection in the field and provided log-sheets are well laid out and easy to use, getting these data into a usable digital format is easy and can be done almost immediately. The information collected allows organisers to go

DESIGNING A FISH FRIENDLY COMPETITION

Some basic concepts were applied when the competition format of the Valley Classic was being designed. The aim was to devise a format that posed a challenge to the anglers, had relatively simple rules, minimised the stress on the fish caught and provided a platform for easy data collection. Here are some of the ways that the competition was designed to achieve these objectives:

Size - The field is limited to 10 teams fishing, reducing line pressure and the number of boats on the water.

Duration - It's short. A single competition day on the water prevents good fishing spots from getting overexploited, as would happen in multi-day competitions. This reduces pressure on the fish and keeps the competition exciting

Multispecies - fishing pressure is spread across many species, making the competition more challenging, while reducing pressure on trophy species such as tigerfish that are usually targeted in competitions

Points format - Scoring rewards diverse catches rather than simply big fish. This again spreads the pressure across a wider range rather than just targeting mature, breeding adults of trophy species. Bonus points were awarded for catching the bag limit on a species, and bonus fish at different times of day made it more profitable to switch species rather than focusing on just one

Bag limits - Bag limits on species mean that once a team catches it's bag, it's time to move on to a different species. This reduces pressure on single species and also introduces an element of strategy

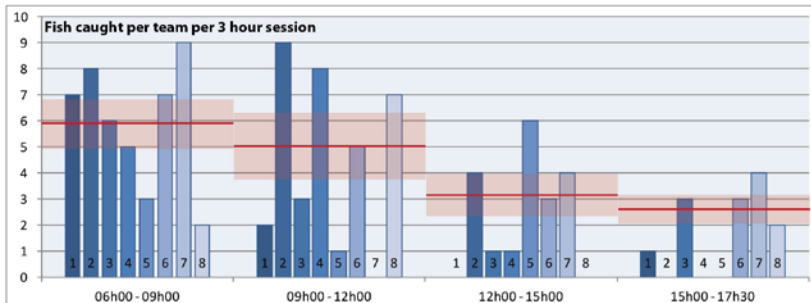
No weigh in - Fish are photographed on a standard board and then released immediately: no live-wells, or physical weigh-in at the end of the day means less stress on the fish and lower fish mortality.

Data collection - Using specially designed catch cards not only makes the paper 'weigh-in' at the end of the day easier, but also provides valuable information in the form of further catch records for the area. Catch logs were kept simple - recording enough info to be informative, but not so much that it interfered with fishing.

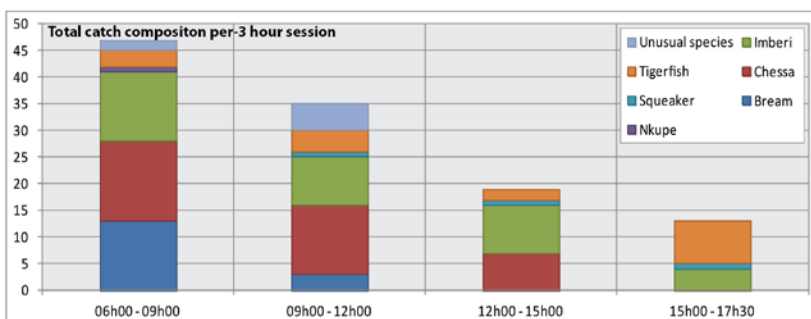
Photographs - Photographs of fish provide an accurate record of the size and species. When well photographed against a standard fishboard can also be used later to collect additional info such as measurements for morphometric studies, condition assessments, or signs of disease/parasites.

beyond simply tallying up points. It can be used to optimise rules and competition format to make the competition more challenging or exciting, aid in making decisions about the duration of the competition and species targeted, as well as providing better information to judge and reward performance. Information on the number of fish were released vs those retained also keeps tabs on the overall impact of the competition as well as impacts on vulnerable or sensitive species.

The examples shown here from Valley Classic 2014 catch records illustrate some very basic examples of what can be done with the data. One of the main advantages of standardising the data is that a template can be set up that can be used for different competitions. Once a template is in place with dynamic charts and tables that feed off the entered data figures and statistics like the ones shown can be generated as fish records are entered at weigh-in.



Fishing performance of eight fishing teams measured as total catch per quarter of a 12 hour competition day. Mean catch per session is shown as a red line (\pm SE). The three top teams in the competition (2,6,7) maintained an average/above average catch across at least 3/4 of the day.



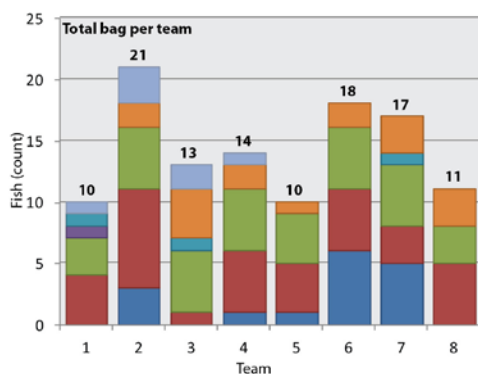
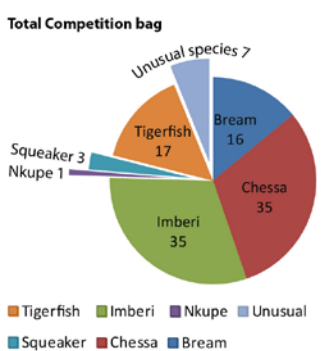
Total catch composition for each quarter of a 12 hour competition day in a multispecies fishing competition. A total of 114 fish were caught although the rate of catches declined throughout the day. In the first session, 47 fish were caught compared to only 13 in the last session. Catches were dominated by chessa and imberi. Tigerfish catches were highest in the late afternoon session where 8 out of a total of 17 tigerfish were caught.

MEASURING PERFORMANCE THROUGHOUT THE DAY

Because each recorded catch has a time on it, performance can be tracked throughout the day to see which periods are most productive as well as looking at which species were caught in the morning or afternoon. This could be used to optimise the length of the competition day, or in multi-day competitions compare catches throughout the competition to decide whether to include or to drop additional days.

The performance of each team, or the whole field can be compared. It is easy to see which teams performed consistently well through-out the day and which teams went through periods of low catches. For competitive anglers this information can give them an idea of where they might need to work to improve their performance. This can be broken down even further to assess the performance of individual anglers in the competition.

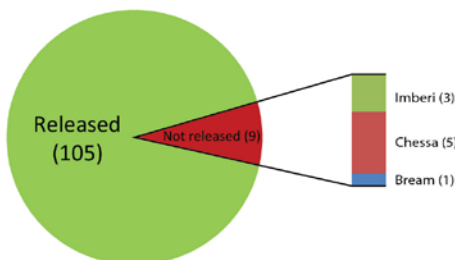
The catch composition in terms of species can help show which species might be more active at different times of day. This has to be interpreted with caution however, as it may also be a function of anglers tending to target certain species at different times. For example, tigerfish seemed to be most caught in the late afternoon session, but they may have been most targeted by teams at this time.



CATCH COMPOSITION AND RELEASE SUCCESS

In a multispecies competition it is interesting to see which species were caught most frequently. This can be looked at for the competition as a whole or to see how catches differed by various teams. For competition organisers this information can be used to adjust the scoring system - setting points different points for commonly or rarely caught species. If it seems that vulnerable or sensitive species are being targeted they could be emphasised or de-emphasised accordingly through setting bag limits, or excluding certain species.

Releases vs non-releases



The fate of 114 fish caught in a multispecies fishing competition based on photographic catch records. Of the total catch only 9 (< 8%) of the fish were not successfully released. The retained fish were all imberi, chessa or bream - species usually kept as bait for tigerfish.

It is important to measure the impact that competitions may have on the fish populations in the competition area. Release data can be analysed to see how many fish are retained or mortally wounded during capture. This can be broken down again by species to set rules on off-limit species or whether or not certain species might be retained for bait. It can also be an indicator of whether further angler training and education about catch-and-release and safe handling of fish might be required for competition participants.

Fishing competitions need not involve wholesale slaughter of your favourite species. With true catch-and-release competition there are many options to reduce the impact, cut down on mortality of target species and do away with the dead fish that characterise the legacy-style competitions of dead-weight points systems. Not every competition is the same and not all of the principles demonstrated here will work for all competitions. Likewise, these are not the only methods available. The trick lies in striking a balance between making sure that the rules and format minimise the impact of the competition without overcomplicating the rules or detracting from the enjoyment of fishing. Catch-and-release competitions also become a great opportunity to educate anglers about catch and release and let them become more familiar with the basic techniques of good fish handling and release practices. With very simple tools and methods available to make almost any competition more fish-friendly, anglers should seriously consider whether it is worthwhile entering any competition that does not put serious thought into catch-and-release and employ measures to minimise the impact of that competition.



Lower Zambezi
Catch & Release Initiative



The **Lower Zambezi Catch & Release Initiative** is independent initiative to promote sustainable recreational angling on the Zambezi River. (www.wildtracks-zambia.com/index.php/LZCRI). The LZCRI runs from and is supported by **Wildtracks Lodge, Zambia** (www.wildtracks-zambia.com)

All Valley Classic proceeds were donated to Conservation Lower Zambezi. Thanks to all the lodge managers, guides and owners who participated in the 2014 Valley Classic and donated generously to conservation in the Lower Zambezi, in particular the staff and management of **Wildtracks Lodge** for organising and hosting the event, **Fringilla Farm** for providing meat, **Gwabi River Lodge** for providing refreshments and **Wildfly** for sponsoring prizes.