



*... to conserve, protect and restore Michigan's coldwater fisheries and their watersheds*

November 3, 2012

DNR Director Keith Creagh

Re: Upper Peninsula Brook Trout Harvest Limits

We are writing you today to oppose your proposed strategy for implementing a 10 fish bag limit for brook trout in the Upper Peninsula.

We previously commented in writing to the Department on this matter, and gave testimony before you at the September 2012 NRC meeting. That testimony was in support of the Fish Division recommendation for “no change in regulations at this time”. Apparently, since that time, DNR plans for action on this reversed to indeed changing regulations on at least 10 streams at this time. We believe you are flawed in your biological assessment of this issue, your use of social science information is skewed in favor of a minority opinion, you’ve ignored your citizens’ advisory committee on this subject matter, and that you have essentially performed a “bait and switch” during the NRC vetting process leaving public stakeholders perplexed about your motivations.

Your current recommendation does not reflect the rigors of biological science, social science, good policy, good research methodology, or a good public decision making process. At this point, it appears to meet only a perception of political accommodation, and the people of Michigan have made it clear that we demand our natural resources to be managed by sound science. We are urging you to cancel your proposed plans to implement this regulation change, and have included a detailed summary of the deficiencies of this proposed regulation change issue. We appreciate your thoughtful consideration of the significant and extensive concerns we present you with on this issue. We are committed to ensuring progressive fisheries management based in sound science. We hope you are too.

Thank you,

Dr. Bryan Burroughs – Executive Director, Michigan Trout Unlimited

Dr. James Cantrill – President, Fred Waara Chapter of TU (mid- U.P.)

Robb Smith – Chair, Michigan Trout Unlimited

## Upper Peninsula Brook Trout Bag Limit Policy Deficiencies

### Biological Science Problems

- 1) The very foundation of this issue does not rest in biological sciences. Brook trout populations in the U.P. are not biologically different from those of the L.P. Brook trout populations are perhaps most influenced by water temperatures and ground water inputs more than any other factors, and our brook trout fisheries do not distinctly differ in these regards based on what side of the Mackinaw Bridge they fall on. Refer to DNR researcher Troy Zorn's research (much of which is also the underpinnings for the state's water withdrawal assessment tool). Hence, there is no biological basis to exploring or allowing a different harvest limit in the U.P. than in the L.P. This request is firmly rooted in social science considerations – not biological ones.
- 2) The Fish Division, at least at the state level, has unfortunately concluded that they see no biological evidence to consider an increase in bag limits to be a significant risk to our fisheries and hence the change in bag limits is not a biological issue. That conclusion simply is not based on a complete analysis of the issue. In our previous letter we explained many of the details of the rationale for our opposition on biological grounds. To reiterate those points here: (A) DNR assessment and modeling efforts relied on 30 year old data from 4 streams in the U.P. We do not have a scientific understanding of how the brook trout populations may differ from 30 years ago, nor how the angling dynamics for them have changed. Everyone involved in this issue has clearly expressed that angling dynamics have changed since then – yet we know not how they have changed. (B) DNR attempted to use simulation modeling to understand how this change might affect brook trout populations. That was the appropriate scientific tool to use; however, this modeling effort was not developed to an appropriately detailed level. For example, "recruitment was held constant"; which is akin to developing a model where the number of whitetail does doesn't affect the number of fawns born the next year. It's an unrealistic simplification. It's no wonder at all that the conclusion would indicate the equivalent of saying we can harvest as many deer as we want without reducing the population. In our previous letter to you, we explained in detail how fecundity-at-age issues for brook trout (that were not considered) showed how a minority of adult brook trout over the 7" minimum length contribute to a majority of the next age class of offspring. (C) Increased hooking mortality on sublegal sized brook trout from additional effort towards harvesting 7"+ brook trout in excess of 5 also needs to be analyzed. (D) The nature of natural mortality versus angling mortality was unaddressed. These two sources of mortality can be compensatory, additive, or some combination of both. We do not know what they will be; yet we heard assertions that since natural mortality of brook trout are high, the extra fish harvested would have died anyways. This assumption is not currently supported by any available data. (E) We lack an understanding of where brook trout populations currently are relative to carrying capacity. Where populations lie along their stock/recruitment curves is essential to understanding the impacts of increased angling mortality on the stocks. This is the foundation of how harvest

or biomass objectives are managed with commercial fisheries in a quantitative manner. Without this information, we cannot understand where our populations are at now compared with their potential, or our objectives for either managing based on maximizing harvest sustainably, or managing for maximum biomass (for highest catch rates by anglers).

We communicated these concerns with biological assessment both during the DNR coldwater regulations advisory committee meetings process, and in writing to the DNR on their original proposal. We have not received follow up discussion on these technical issues. We may not have easy solutions to answering or addressing some of these biological questions today. Despite that, progressive fisheries management based in sound science demands it. You can imagine the disappointment created when important scientific considerations are passed over and the Department still states they are confident in their biological opinion that this issue is clear cut, and there will be no biological impact. It is usually the case that we lack complete information to make natural resource decisions. However, the proper approach is to recognize uncertainty and consider it explicitly in that decision making process – it is not proper to ignore the uncertainty that is present. If we don't begin to hold ourselves accountable for rigorous science based management now, when will we get to it; when will we start to manage at the standards expected by the citizens of Michigan?

### **Social Science Problems**

We believe that all management of natural resources is inherently based on management for people, and thus needs to include social science considerations. We expect that social science tools should be used alongside the metrics of biological science. To use social science information is warranted in this case. For the last 3 years, throughout recent trout regulations changes, we've urged the DNR to begin using social science in their decision making. We've also begun working towards such with Fish Division in initiating new research to create this type of information for their use. We've just raised nearly \$100,000 in private funding to make possible research conducted by Michigan State University that will help to document the demographics, behaviors, attitudes, preferences, and economic impact of Michigan's inland trout salmon and steelhead anglers. It will take another 1-2 years before this research is available. However, in the absence of it now, the Fish Division sought public input through a public survey. This survey was not randomly sent out, so we do not confidently understand how it might be representative of the entire population of affected anglers on this issue. Despite that shortcoming, the Department received a record amount of input (n=1400). For comparison, input on issues such as raising the bag limit of salmon, and changing from 2 lines per angler to 3 lines per angler, and reduction in Lake Michigan salmon stocking rates recently received only around 300 responses each. Therefore, the fact that this input process was adequately communicated and opportunity for all interested anglers to provide their input was provided is well supported. We applaud this effort of Fish Division to seek social science information for use in crafting policy. However, in this case, the DNR now seems to be undermining this effort by ignoring the results of it. That does not represent proper responsive feedback from DNR management for a progressive effort by the Fish Division. In fact, it equates to an undermining of the very intent public participatory processes. Why should Fish Division spend precious resources to do surveys in the future if they ended up not being

used in this case? Why should the public feel like providing you input in the future if it doesn't appear to be applied properly?

- 1) The public input process resulted in information that strongly indicates the public is not in support of this change. It indicated that more anglers value successfully catching brook trout, or catching higher numbers of brook trout on their trips as a primary objective, than those seeking to harvest higher numbers of brook trout on their trips. The public realized that the higher harvest rates by some can negatively affect their objectives for their angling trips. The 30 year old study the DNR relied upon in its earlier proposal showed that only about 2-3% of anglers used to catch more than 5 legal brook trout, (compared with over 70% that failed to catch even 1 legal brook trout). Despite only 2-3% of anglers catching more than 5 brook trout – those 2-3% percent of anglers accounted for about 30% of the brook trout harvested. This issue is not about a few anglers being able to biologically keep more without population level consequences – it's about angler objectives for their fishing experience and a few anglers keeping more appears through this public input as a negative tradeoff for a majority of anglers. We should work to craft opportunities that match the desires of our anglers; we believe this is the next direction for management, but what is proposed here is not robust development towards that end
- 2) Social science considerations for the catch rates of anglers were not considered. This goes along with the previous comment. Perhaps some streams can accommodate higher bag limits of 7" brook trout without significant impact to the entire brook trout populations in a given stream system. But, that does not mean that localized impacts won't occur. Consider the scenario where much of a stream is unfished due to accessibility challenges, but heavy angling effort is expanded on easy access points like road crossing, bridges, etc. It is very plausible that within the first month of the trout season (shown by the 30 year old study to be the period the majority of angling pressure is expended), higher harvest of 7" fish by a few can lead to localized depletion of legal sized fish there, meaning catch rates by all anglers fishing there will decrease (at least until the following year when fish may redistribute themselves and fill back into those areas from other parts of the stream). The results from the 30 year old study indicated this was likely occurring (over 70% of anglers were unsuccessful, while 3% harvest 30% of the fish). The DNR never evaluated whether the change to 5 fish bag limits helped improve catch rates for the majority of anglers. The proposed change in bag limits seeks to return to the past despite the majority of the public indicating they favored being able to successfully catch fish more than being able to keep more.
- 3) Perhaps the most important missing information in understanding the impact from changing regulations is our lack of understanding of angler dynamics. We need to know what angling mortality is. Angling mortality is broken into both harvest mortality and hooking mortality. In order to estimate this, we need to understand how many people are fishing, how often, the gear they use, and their harvest behavior. We ought to understand what this is now, and what we believe it would be under a different regulation scenario. However, inland trout

stream creel surveys have not been prioritized in past DNR budgets, and we lack a useful understanding of these critical components to managing a fishery. It is entirely plausible that rather than implementing the change in regulations and monitoring its impacts, that we could alternatively work to assess angling mortality, then use simulation modeling to predict the impact to the brook trout populations and catch rates of anglers. This research approach might actually lead to better insight into the consequence of increasing bag limits rather than a real world experimentation where we will have to decipher any observed changes in light of numerous variables that might have caused them (if we do the real world implementation and monitoring, but fail to do assessment of angling mortality, we will still struggle to understand if changes were due to angling mortality or other factors). The issue comes into play again when considering that implementing the regulation change on 10 streams may draw more angling pressure to them than normally expected. If this happens, results may unduly hamper the ability to implement 10 fish bag limits in streams, to the detriment of stakeholders favoring that.

- 4) We've heard comments from members of the NRC that this will be a good change for increasing angling recruitment. This is not grounded in social science evidence, rather anecdotal observations. The only group of anglers that strongly reported preferring an increase in bag limits are anglers 60 years of age and older. Current research from license sales in Michigan, and studies of angler recruitment by groups like Responsive Management and Southwick, indicate that the greatest drop in angling recruitment comes from 20-40 year old males, who are having less available leisure time and numerous competing interests for their available leisure time. This group of anglers, on this issue, identified primary objectives of higher catch rates as a primary objective for their experience. Quality accessible angling opportunities closer to population centers appears to be one of the best approaches we could take to aid angling recruitment. But in this case at least, the social science does not appear to support that this change in bag limits will aid recruitment, although it could decrease trips to the UP if catch rates decrease for anglers visiting these waters for brook trout angling.

### **Public Process Problems**

We recognize that the authority for Fisheries Orders lies with the DNR Director, not the NRC, and that the DNR Director is legally able to institute a fisheries order at any time. Despite this, past DNR Directors have, as a matter of good public decision making transparency, used the NRC process to vet its decisions on Fisheries Orders and allow the public opportunity to comment. This behavior has come to be expected and is the reason a formal legal change to the required process has not been pursued by constituents. We appreciate the DNR Director continuing to follow this approach. This particular situation however, has been complicated by the perception of a "bait and switch." For 2 months, the regulatory change was brought for information to the NRC, and the Fish Division clearly proposed "no change to the regulations." Concurrently, fisheries also communicated a desire to research the issue, along with alternative regulations for coaster brook trout. After the second month of such reports, we gave testimony in support of the Fish Division's recommendation and offered our commitment to aiding

proper research into the effects of higher bag limits for brook trout. The proposal that came forth at the September NRC meeting was a contradiction to previous recommendations the public had come to anticipate. This coupled with the stringent and immediate implementation of it has appeared to be nothing less than a fast-tracked end run contrary to public expectations for the resolution of this issue.

- 1) The DNR Coldwater Regulations Advisory Committee opposed the recommendation to increase the bag limit of brook trout in type 1 -4 streams, and was not consulted on this new plan to implement a 10 stream “experiment” lacking sound baseline data. This severely undermines the process of using this committee, which was intended to help prevent chaotic political-based decision making on such issues. Members of this committee dedicated their time and travel costs to work through inland trout management issues in Michigan, and now members will have to ask themselves what for?
- 2) Public input solicited and received by the Fish Division was used by Fish Division, but appears to be ignored in the current proposed plan. The NRC, itself, has accepted protocols for considering wildlife harvest regulation changes. We believe that policy requires 2/3 public support at minimum for consideration of a proposal by the NRC. The proposal to increase the bag limit, had only 1/4<sup>th</sup> public support, yet it is being implemented nonetheless. Does not the DNR Director’s decision making process on fisheries orders warrant an equivalently equitable and transparent basis for decision making? How can this decision be publically understood as anything other than politically motivated?
- 3) The NRC has consistently expressed a desire to see fishing regulations made less complex. This was a clear paradigm for Fish Division to work within during the past 3 year period. The gear-restricted streams additions made several years ago originated from that same desire. The “Trophy Waters” of the Au Sable River were biologically assessed, and needed to be given regulations outside of “experimental.” Anglers and business owners with stakes in Michigan’s fishery asked for a regulatory remedy that benefited all of the users, yet no existing regulation category existed to provide that. Stakeholders were told that we could not create a new regulation that suited their interests, and that regulation complexity was not to be added. This initiated the process of adding it to gear-restricted waters (and of removing Types 5, 6, and 7 formats). During the ensuing process, members of the Coldwater Regulations Advisory Committee worked creatively and cooperatively to reduce the size of the inland trout stream regulations table by nearly 50%. This was done not through common agreement that they needed to be simplified – but in recognition and respect for the NRC desiring it. Now, to suit a minority interest, the DNR seems enthusiastic to add a new regulation category which increases complexity by 20%. This has the appearance of being hypocritical, and yet again undermines the utility of any advisory committee members participating in that process.
- 4) We have recently heard that this added “complexity” issue will be addressed by adding the Type 5 regulations to the inland trout stream “maps.” These maps have not been included with the DNR Fish law guidebooks for many years now. It is our understanding that this

occurred following appropriations of funds for them away from coffers of the Fish Division. We also understand that situation was reversed – but the funding to include these maps was not re-appropriated back. We spoke to NRC commissioners Keith Charters and John Madigan in the last two previous years about correcting this situation, so that the maps could once again be included in the law guide books. All agree that these maps are the most critical element to the public easily understanding and adhering to the trout streams regulations. We have not heard of any progress towards producing these maps as part of the law guidebook again. Simply providing these critical maps online will not aid the majority of trout stream anglers. What is the status of printing these maps again?

### **“Research” Implementation Problems**

Trout Unlimited stated that it was not opposed to the idea of a higher bag limit for brook trout, if it can be done on streams where there will not be significant negative impact to brook trout populations, and is done in a manner that equitably addresses diverse angler objectives for their fishing experiences. With that, we stated that we would assist with conducting the research on 10 fish bag limits.

- 1) The design of the research of this issue has been fast-tracked non-productively. Fish Division has internally designed and made plans for implementing this research, and has perhaps misunderstood what “partnering” means. It does not mean they create a plan, select streams, implement their own timeline, and then ask for financial or human resources to fulfill their research design. We do not believe they would have made this error if they had not been pushed to fast-track this new regulation.
  
- 2) Fish Division understands that a BACI (Before- After-Control-Impact) experimental design is the most powerful experimental design to help lead to understandable, interpretable study results. Unfortunately, now it is forgoing the critical “Before” and “After” components for political reasons based on the desire to have these changes implemented for next trout season. Of course, a Control-Impact study design can still be useful. However, the selection of streams in which to experiment on is absolutely critical to the utility of the information to be gained. For example, if the future management desire is to expand these regulations to all streams, or all Type 1 streams, a random selection of streams from that category is required for the sample to be representative of all the streams in that category. If they aren’t random, the results will not indicate whether all the streams in that category are suitable for the increased bag limit. If streams are chosen to represent streams that have high densities of brook trout and low angling pressure (places most likely to be able to accommodate the higher bag limit), then the results of the study will be difficult to apply. If no detriment is found on these streams, then expanding it to other streams later will require identifying which individual streams also have those same characteristics. As mentioned previously: We lack information about fishing pressure on inland streams, and we don’t have quality recent biological information on very many individual streams. One can only

imagine the sort of stakeholder frustration that will follow on the heels of this ill-conceived “experiment.”

- 3) We lack an inland trout management plan. Without this, we lack context of where we are going with trout management in Michigan, and which issues are most important to pursue in the future (especially in light of finite resources within the Department). This issue of brook trout bag limits in the U.P. is a “one-off” issue that lacks context. We believe that if you ask DNR biologists whether this was the most important issue we should work on or experiment on for trout management in Michigan, they would give you a resounding “No!” In the absence of an overall management plan, discussion within the Coldwater Regulations Advisory Committee have included future attempts at restructuring the 4 regulation types to regroup streams based on biological aspects, but also on the predicted extent of angling pressure on them (i.e., less angling pressure – less restrictive regulations, more pressure – more restrictive regulations). If an effort such as this were to be pursued, it might allow the grouping needed to better accommodate expansion of higher bag limits in the future. But, with the current proposal cutting in front of more critical management questions, precious human and financial resources will be used on it, and the results are likely to still not move any stakeholders’ interests forward.
- 4) Two individual streams selected for regulatory change in this “experiment” pose special problems:
  - A. Bryan Creek. This tributary to the West Branch of the Escanaba Watershed is part of a concentrated fishery enhancement and restoration project of which the Fred Waara Chapter of TU (Marquette), Escanaba River Association, NMU and DNR are partners. This effort has included widespread data collection, funding of a Master’s Degree Student conducting research on brook trout population dynamics and habitat, and grant pursuit for targeted restoration efforts. However, the Escanaba River Watershed Project has not yet inventoried the Bryan Creek system beyond taking temperature readings for the past two years (which incidentally suggest that the stream is a refuge for brook trout during times of temperature induced stress). Just as the Fish Division has excluded stream segments containing their own status and trends monitoring stations, so too should Bryan Creek also be removed from the list, at least until such time as scientific baseline data is collected.
  - B. Tahquamenon River. Past data collected on this stream by DNR shows evidence that either past reduction in bag limits, habitat enhancements, or likely both have resulted in increases in the brook trout population there. Additionally, this stream is understood to harbor meaningful angling pressure. Together, this seems to indicate that changing regulations on this stream will be likely to reduce brook trout densities. If this river is part of a random selection of Type 1 streams, then its selection is understandable. If however, sites are being selected on the basis of their ability to withstand higher angling mortality, this site may not be suitable.



5) The method of regulation implementation is not commensurate with “experimental research.” Rather, it represents an affirmative regulation change. Certainly, past experimental regulations have been initiated through “experimental regulations” and these have sometimes been nestled under “gear restrictions” and other times through specific regulation exceptions (e.g., Pictured Rocks experimental coaster regulations, county by county exceptions). Creating a new regulation category and then attempting to monitor or evaluate it (with no dedicated means to perform evaluation in place) is fundamentally different than experimentally researching it. This experimental research effort should not be given a new regulation category type – it should rely on listing experimental streams as county by county exceptions for “research purposes”. Implementing a new regulation category has a much greater affirmative permanency, and something clearly not in line with Fish Division recommendations we originally supported. Experimental regulations have to be removed once the experiment is concluded, whereas general regulation categories are simply reauthorized through a fisheries order process. The permanency of this implementation strategy is not appropriate policy, is inconsistent with Fish Division original recommendations, and should be opposed for these reasons solely.