The New Mille Lacs Agreement: Pros & Cons

By Mark Rotz and Dick Sternberg

PERM members deserve a big pat on the back for their role in restoring a degree of common sense to Mille Lacs Lake fisheries management. PERM is the only organization that waged an active campaign to change the management plan that was causing so much strife for anglers and business interests around the lake. There is no doubt that the DNR listened to PERM representatives and acted on many of the recommendations in the "Sternberg" report. Here are some of the most notable examples:

Higher SHL. The report concluded that the DNR was holding the walleye safe harvest level (SHL) to an unreasonably low level when compared to the historic harvest level and even to the retrospective findings of their own computer models. The DNR now agrees that this was the case and will be revising their SHL upwards. It appears likely that their new SHL will be very close to what the report was recommending. Without a higher SHL, more liberal regulations would not have been possible.

Wider Slot. The report recommended a regulation that would reduce the focus on a narrow size range. The 17- to 28-inch protected slot is a step in the right direction.

Avoid Tight Slots in Summer. To minimize hooking mortality, the report recommended avoiding tight slots during warm-water periods. The coming season will start with a 14- to 16-inch harvest slot and then switch to a 17- to 28-inch protected slot when the night ban comes off in early June. Barring some unforeseen change in the walleye population, the same protected slot will remain in effect through the 2007 season. Had this regulation been in effect for the 2002 season, hooking mortality would likely have been cut in half.

Sorting Ban. The report recommended a ban on "sorting" or replacing a fish in your live well with a larger one. The stressed fish that are released will probably not survive. The DNR has decided to implement a sorting ban statewide.

Improved Gill-Net Survey. The report recommended adding more gill nets to sample the middle of the lake and to use a larger mesh size to better sample large walleyes, which now comprise a larger percentage of the population. The DNR has now added 12 "offshore nets" and 16 large mesh nets to their annual sampling program.

Better Estimate of Hooking Loss. The report pointed out the DNR's inability to accurately measure hooking loss. Beginning next season, the DNR will conduct a hooking mortality study to get a better measure of the problem.

Regulation Stability. The report criticized frequent regulation changes based on annual fluctuations in the catch. The new 5-year plan takes care of that problem.

Use of "Retro" Numbers. During the course of his research, Sternberg discovered that the DNR was using two different sets of numbers to calculate safe harvest levels: (a) the

number generated by their latest computer model and (b) the “retro” number, which is adjusted based on data gathered in subsequent years. The retro number was used to make certain calculations, such as the “exploitation rate,” but was never made public.

The problem is, in every year since the retro number has been calculated, it has been higher than the original number, sometimes by hundreds of thousands of pounds. For the year 2000, for example, the original SHL used to set the regulations was 370,000 pounds and the retro number was 520,000, a difference of 150,000 pounds. The biggest difference was a staggering 410,000 pounds for 1998. The consistent pattern of underestimates mean something is wrong with the computer model that generated them. Had the original numbers more closely matched the retro numbers, regulations in recent years could have been more liberal.

When averaged over the past 15 years, the DNR’s retro numbers closely match the historical harvest level, yet the DNR has not been willing to use retro numbers to set the safe harvest level. But in the new 5-year plan, the DNR has agreed to “investigate the issue of retrospective bias in the models utilized to evaluate the condition of the walleye population in Mille Lacs Lake.” It will also “adopt measures to minimize retrospective bias.”

Had it not been for the controversy resulting from Sternberg’s research, the public would not be aware of retrospective bias and the DNR would be doing nothing to address the issue.

More Sensible “Condition Levels.” Before announcing their new 5-year plan, the DNR invited PERM representatives to a meeting to discuss the plan’s basic elements. Their proposed plan established “conditions” that would trigger in-season regulation changes. For example, if the walleye harvest exceeded a specific poundage by the end of May, bag and size limits would become more restrictive. PERM representatives suggested setting the condition level based on a percentage of the annual safe harvest level, rather than a fixed number. That way, if the safe harvest level increases, as it probably will, it would take a higher harvest to trigger a regulation change. The DNR agreed to implement this change.

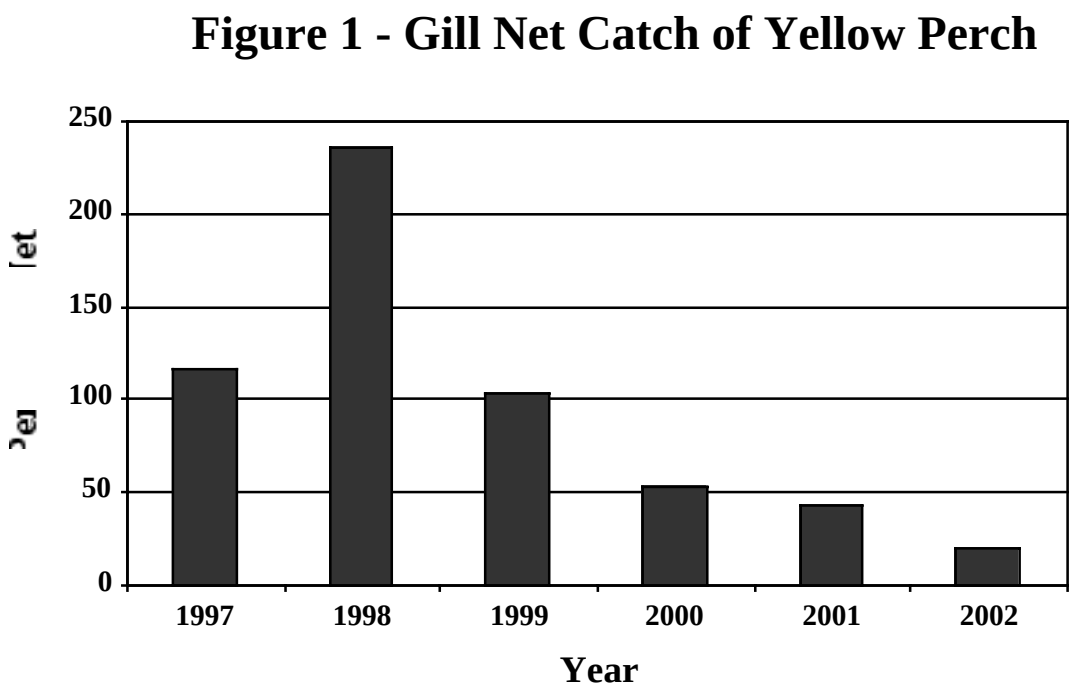
Use of Band “Underages.” PERM representatives argued that an underharvest by the Band in a given year should offset an overharvest by the state. After all, the idea is to manage the total walleye population and it makes no difference as to who is taking the fish. As part of the 5-year plan, the DNR proposed such an offset for the 2002 season and the Band accepted, resulting in an overage of about 30,000 pounds that must be made up over 5 years. Had this agreement not been reached, the overage and payback would have been about 70,000 pounds.

Shortcomings of the New Plan

The plan does little to correct the biological imbalances that have resulted from the super-tight slot limits imposed in recent years. Practically all of the large walleyes are still

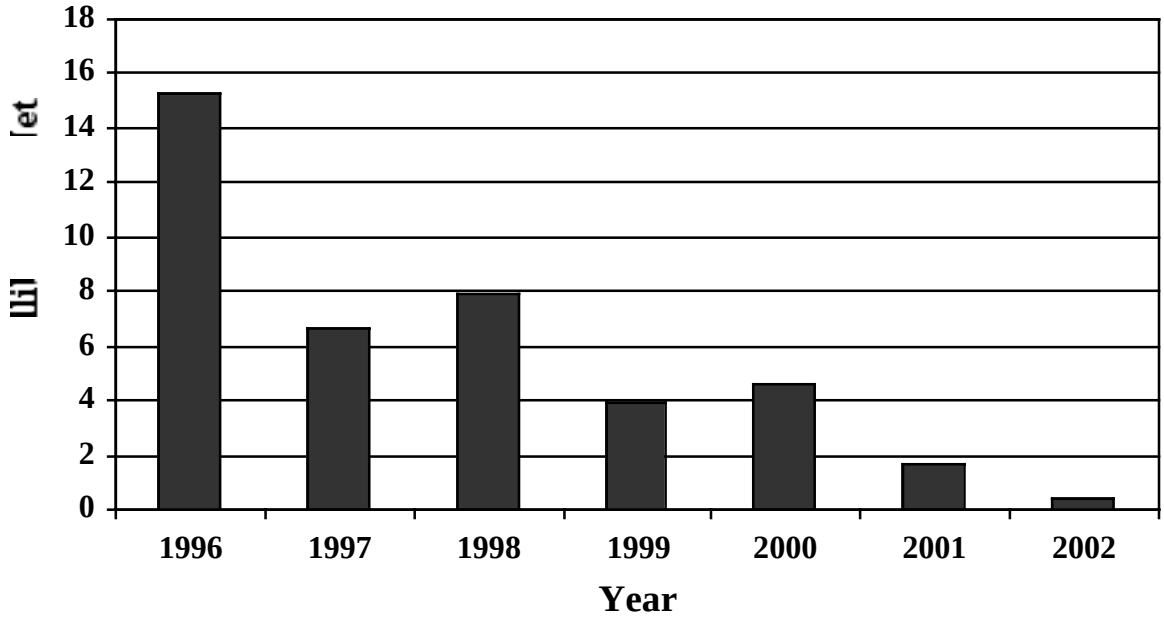
being protected, and this could make it difficult for the adult baitfish to rebound. Here are the main problems that still need to be addressed:

Decline in Adult Baitfish. The 2002 gill-net survey revealed that numbers of adult yellow perch and tullibee are alarmingly low. The 2002 catch of 20.2 perch/gill-net lift is a 14-year low (Figure 1) and is well below the long-term average of 54.8/lift. The tullibee



catch is even more worrisome. The 2002 catch of 0.41/lift is an all-time low (Figure 2), down 97 percent from the long-term average of 13.4/lift.

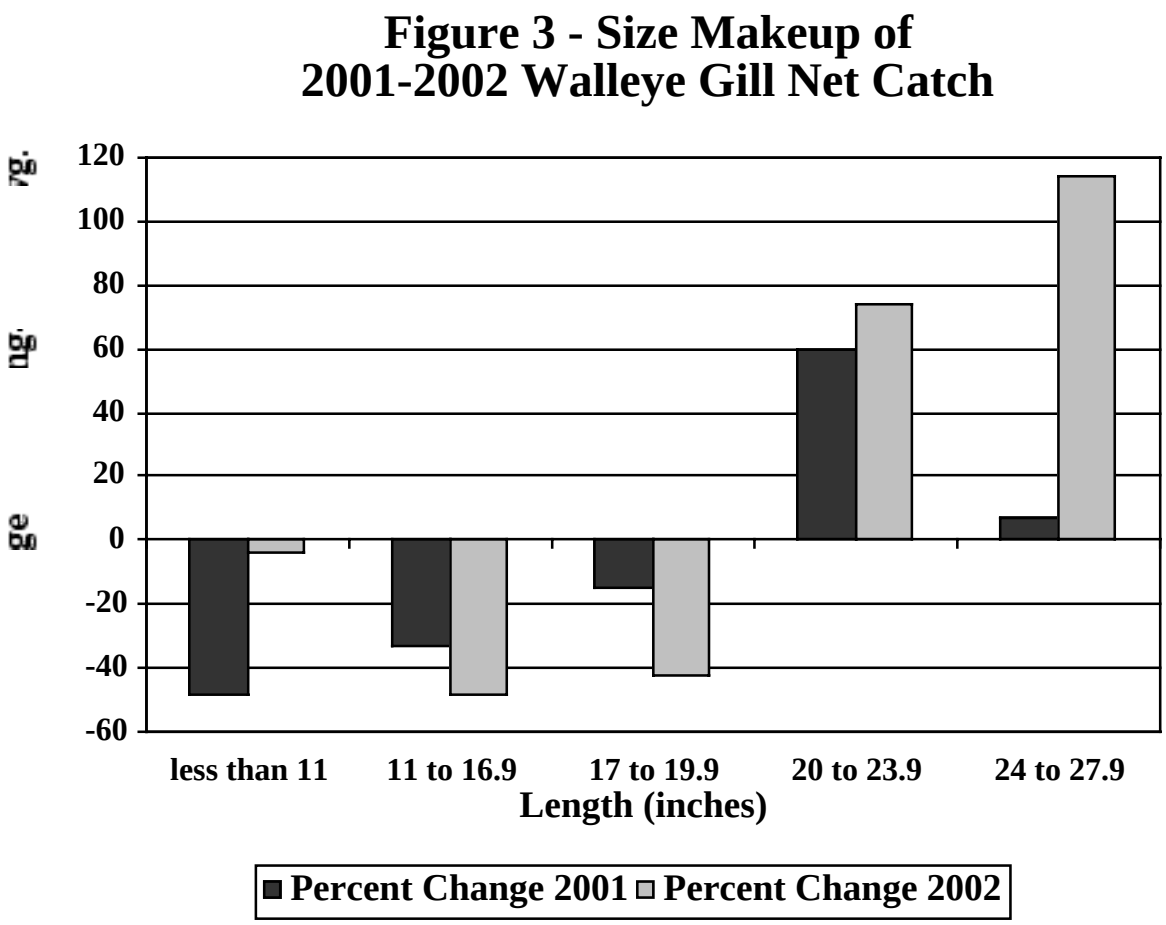
Figure 2 - Gill Net Catch of Tullibee



The DNR has no explanation for the tullibee decline but speculates it could be a result of stress caused by rising water temperatures. They have no data to support that theory, however. It seems more likely that the decline is a result of predation by the increasing numbers of large predators, particularly walleyes and muskies.

The large hatch of yellow perch in 2002 was a surprise in light of the low population of adults, but these questions remain: How long will these small perch last in light of the low numbers of other baitfish? And can we expect more good perch hatches with the population of adults dwindling even farther?

Size Imbalance in Walleye Population. When the 14- to 16-inch slot was imposed at the beginning of the 2002 open-water season, the DNR knew it would be difficult for anglers to catch “keepers” because the walleye population was skewed. The number of “slot fish” was 37 percent below normal, while the number of 20-inch-plus walleyes, was considerably above normal. The 2002 gill-net results show that the population is now even more skewed (Figure 3). With the new slot, anglers will target walleyes in the 11- to 17-inch size class, but those fish are already 48 percent below normal. Walleyes in the



20- to 24-inch class, however, went from 60 percent above normal in 2001 to 74 percent above in 2002. And 24+ inchers skyrocketed from 7 percent above normal in 2001 to 114 percent above in 2002. One cannot help but wonder what will happen a few years from now when the big fish die of old age and the smaller fish needed to replace them continue to be the angling target.

Poor Condition of Large Walleyes. The general feeling among most experienced Mille Lacs anglers is that many of the lake's very largest walleyes died as a result of the severe food shortage in 2002. Many of the big walleyes brought into early season tournaments were as much as 50 percent underweight and showing obvious signs of starvation. The smaller fish were thin but still relatively healthy. As the season progressed, the condition of the smaller fish showed a noticeable improvement, probably because of the good perch hatch. But the big fish remained in bad shape and very few 28+ inchers were taken in late-season tournaments.

The 2002 gill-netting results confirm that the condition of the larger walleyes (9 years and older) remains poor. In fact, the average weight of 9-year-olds declined from 2001 and is now at a 12-year low.

Could the lack of improvement in the condition of large walleyes be related to the decline in numbers of adult baitfish? That's possible, because the large walleyes may need some bigger food items in addition to the small perch that are readily available. If that's the case, the problem will probably persist under the new 5-year plan; the size imbalance will continue and that may prevent a recovery in the population of adult baitfish.

Despite these concerns, the new management plan is definitely a big improvement. Within the next few months, PERM will publish a more detailed assessment of the plan and will continue to keep members posted on any new developments on the Mille Lacs political or biological scene.