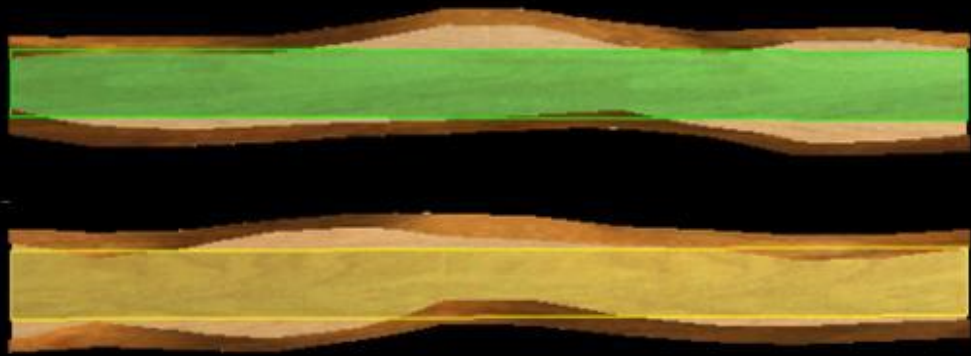


There is a plan for each log that enters your sawmill.



Highlights:

- ❖ Sawmill improves quality, value and recovery by a total of \$21 / MBF
- ❖ “Sawmill Predictability” now as important and familiar as Production and Quality
- ❖ Improving the ability to deliver the optimized solution was a key contributor to the improvement
- ❖ Enhanced management processes and better trained staff made it possible



But how much of that gets delivered?



CUTTING WITH CONFIDENCE | Each sawmill has a strategy when it comes to optimization. While much time can be spent debating the merits of one strategy versus another, the ability to actually do it isn't as popular a discussion topic. It needs to be, as the ability to execute strategy can be more important than the strategy itself. This southeastern sawmill agrees. They now have tools in place to rigorously manage their manufacturing process to ensure actual production matches their optimized solutions. The result...a much more profitable sawmill. >>

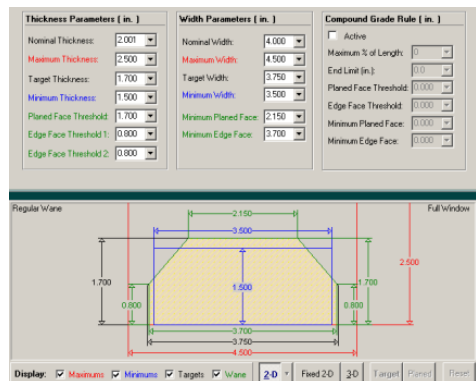
Can an already well run sawmill improve its quality, value and recovery by a total of \$21 per MBF? Yes, and it happened in a period of four months without major capital upgrades or by adding staff. Was there one quick fix? No. It was a result of identifying the opportunities that existed and then rigorously working to capture them.

IDENTIFYING THE GAP

The experienced management team of this 200+ MMBF sawmill knew that by industry standards they were already among the top performers. They also knew they could get better. As the Unit Manager outlines, "There were areas where we knew we could make improvements. We were well aware of the opportunities around accurate decision making at our non-optimized deck saws, sawmill production throughput, and maintenance effectiveness, but we wanted to get the complete picture." So the management team decided to engage Perforex for a 2-week "EXGAP" Assessment of their operation.

The scope of the Assessment included identifying production, quality, value and recovery (QVR) opportunities in the sawmill, kilns and planer, as well as evaluating the effectiveness of the maintenance function. Overall, the "Execution Gap" was determined to be in the range of \$37 - \$47 per MBF, which highlighted significant opportunities for both increased production and improved QVR. It was no surprise to the management team that the QVR opportunities came in many different forms, including bucking accuracy, optimization, target sizes, manufacturing defects, grading accuracy and, last but not least, sawmill predictability.

"The opportunity surrounding sawmill predictability (what our optimizers said we should produce versus what we actually produce) was a much bigger issue than I had thought" says the Unit Manager. In fact, based on a sawmill predictability test done during the Assessment it was determined that on a piece to piece perspective, sawmill predictability was 85%. In other words, 15% of production leaving the mill was something different than what the sharp chain optimizer had determined was the optimal solution.



SET UP | Consistent set up across all machine centers is key to maximizing sawmill predictability.

Based on Perforex experience and the ever present reality of some natural defects going undetected by scanners, the 85% result was not terrible. However, management still wanted answers regarding the 8% - 10% that was being left on the table.

Was an 85% result surprising to the management team? The Sawmill Superintendent responds, "We didn't really know what to think as it wasn't something we previously looked at. We'd do some tests on a machine center basis, but never from a system wide perspective." All of this begged the question: where is it coming from? The management group was a little puzzled, "Some people had opinions, but no one could provide a definitive answer."

CLOSING THE GAP

This sawmill's management team wanted to build and implement a system that would allow them to continuously identify and address variances throughout their process and ultimately improve performance on a continuous basis. They decided to partner with Perforex.

After a clear and consistent optimization strategy was developed and put into place, a team of operators, maintenance staff, supervisors and managers was assembled to

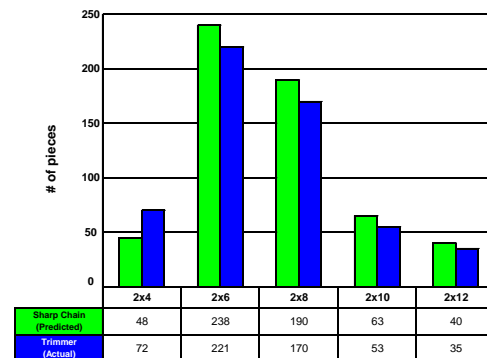
"The opportunity surrounding sawmill predictability (what our optimizers said we should produce versus what we actually produce) was a much bigger issue than I had thought."

design a set of management tools to better understand the controllable elements of their performance. One of the five Key Performance Indicators agreed upon to manage sawmill QVR was "% Sawmill Predictability", a measure that would gauge the effectiveness of manufacturing optimized solutions.

Perforex worked with Quality Control (QC) to design the 'Standard Operating Procedure' for conducting a sawmill predictability test, which included creating data collection and analysis tools. After the design phase, focus shifted to implementation where hourly and salaried staff were trained to conduct the test and analyze results. The test was quickly adopted as 'the way we do business' to identify issues, investigate root causes and develop action plans for improvement.

For example, one test yielded an 87.7% result and upon investigation highlighted the fact that too many boards were edged back. This led to numerous action plans, one of which was to investigate the scanners at the edger. After conducting the investigation, it was discovered that some board scans were incomplete or inaccurate, causing incorrect edging decisions. Action was taken to eliminate this issue and the result was a higher valued product mix and improved recovery.

"The checks we put in place have allowed me to get focused on the things that will make our mill successful" says the QC Technician. He continues, "Prior to the new management system, there was no shortage of things to be



EXECUTION | Based on one sawmill predictability test, it is determined that boards are being edged back. Additional analysis identified the edger scanner as one of the root causes. An action plan is developed to immediately correct the issue.

done, but I didn't have confidence that I was doing all the right things. Using our new management system ensures the important stuff doesn't slip through the cracks."

BENEFITS

So what? The Superintendent responds, "Our sawmill predictability has gone from 84%-85% to over 90%. Is it 100% yet? No, and it never will be, but each time we do the sawmill

predictability test we uncover new issues, and by addressing these issues we are getting better each time."

By delivering a greater percentage of the optimized solution, along with the other QVR improvements, overall profitability has improved by \$21 per MBF. The management group sees other benefits as well, "Now we are cutting with confidence. This process allows us to look at our entire mill and ensures that if we want to produce apples at the sharp chain we don't end up with apples and oranges at the sorter. It has also given us a lot more flexibility; we can now make changes to our optimizer set-up and have full confidence that we will manufacture the product mix that we want." There is no doubt that sawmill profits follow sawmill predictability.

References for this case study are available.

PERFOREX partners with companies to significantly increase their profits by implementing operating practices, systems and disciplines that drive results and create sustainable performance improvement. To date, Perforex has closed the execution gap at over 80 operations including 40 sawmills