Andrew Junkin, CFA, CAIA
President

November 17, 2015

Mr. Henry Jones
Chair of the Investment Committee
California Public Employees' Retirement System
400 Q Street
Sacramento, CA 95814

Re: Forestland Program Review

Dear Mr. Jones:

You requested Wilshire's opinion with respect to the Forestland Portfolio Program Update. In addition to our duties as the General Pension Consultant to the Investment Committee, Wilshire acts as the Investment Committee's Forestland Consultant.

Overview and Opinion

As Wilshire has opined in the past, we believe that a properly structured Forestland portfolio will help investors like CalPERS meet their long-term return goals and will provide diversification and some protection against inflation. However, CalPERS faces challenges in building and structuring a meaningfully large and well diversified portfolio, owing to the organization's size. Given this constraint, the current CalPERS Forestland portfolio exhibits some structural weaknesses that have limited its effectiveness. Wilshire and Staff have discussed these challenges and Staff is evaluating potential paths forward with an assessment of the asset class' scalability and its impact on the characteristics of the total fund.

As the portfolio has held the same two assets for several years, there have been no meaningful changes in the structure. The portfolio continues to deviate significantly from the NCREIF Timberland Index with respect to leverage and geographic exposure, which has caused performance to lag this benchmark over the past several years. Wilshire believes that having a geographically diversified portfolio is appropriate for CalPERS. However, it does introduce misfit risk when comparing the program to the NCREIF benchmark, which is U.S only. The U.S. portion of the portfolio continues to be concentrated in the Southeast with no meaningful exposure to other regions (namely, the Northeast and Pacific Northwest). We recognize that this portfolio does not lend itself well to minor adjustments and that any changes are likely to take a significant period of time to materialize.

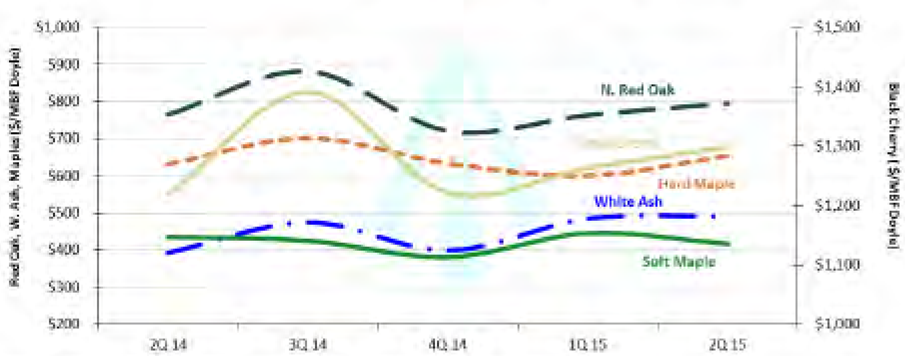
Strategic Role and Investment Beliefs

The strategic role of the Forestland Program is to provide cash flow and appreciation while serving as a long-term hedge against inflation. Overall, Forestland as an asset class is supported by a number of CalPERS' Investment Beliefs. First, Investment Belief 1 states that "Liabilities must influence the asset structure." Forestland has moderate-to-high- expected returns that generate cash and should act as an indirect hedge to inflation. Clearly, Forestland requires a long-term investment horizon and thus identifies well with Investment Belief 2, which states "A long time investment horizon is a responsibility and an advantage." Forestland also addresses Investment Belief 4 regarding multiple forms of capital – specifically in terms of how environmental practices can impact the long term returns of the Program.

Background

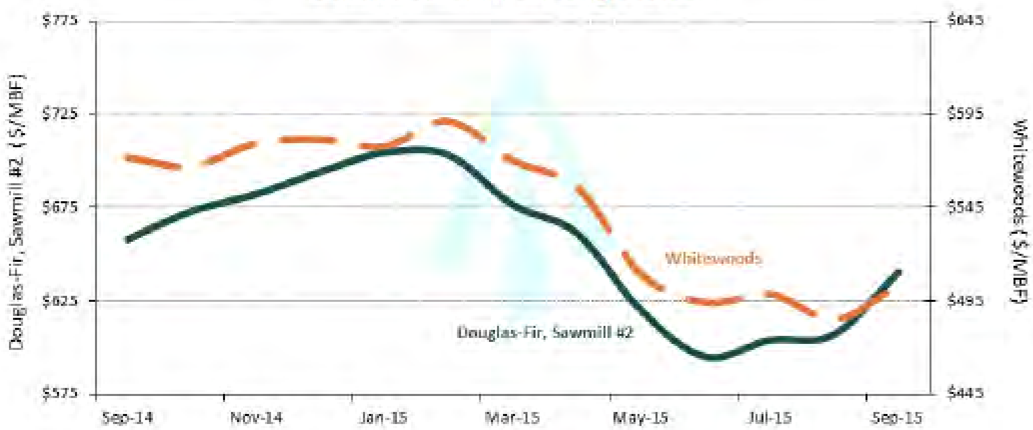
As has been the case for several years, the Forestland Portfolio consists of two assets. However, because the assets hold multiple parcels of forestland, the total portfolio is diversified across the U.S., Latin America, and Asia Pacific markets. Within the U.S., the portfolio is concentrated in the Southern markets with no exposure to the Northeast or Pacific Northwest. Recent price changes for Southeastern, Northeastern and Pacific Northwest timber prices are shown in the graphs below.[i] Timber prices in the Southeast have trended flat to slightly downward, whereas Northeastern and Pacific Northwest timber prices have shown recent upticks.

Northeastern Hardwood Timber Prices



Source: Pennsylvania Woodlands Timber Market Report - Northwest Region

Pacific Northwest Log Prices



Source: Log Lines®

As we have noted in prior reviews, in addition to the geographic diversification of the portfolio, Wilshire notes two additional challenges for the Forestland Program. First, the Forestland Program is levered. The program's benchmark, the NCREIF Timberland Index is unlevered. Frequently, timber and other agriculture-related portfolios are unlevered. While the leverage in the Forestland Program is modest, this divergence creates performance issues.

Second, the current size of the program is not sufficient to meaningfully affect the performance characteristics of the total fund. Increasing the scale of the program to a meaningful size is challenging, given the recent pace of transactions and the total size of the institutionally owned forestland market. Moving to a 5% target, which would be meaningful, would require tens of billions of dollars of transactions and would likely take years to accomplish. Staff continues to assess the efficacy of the program in light of these constraints.

Conclusion

As was the case in our 2014 review of the Forestland Program, the returns of the Program have not met its benchmark. There are several structural issues facing the portfolio – lack of regional exposure to the U.S Northeast and Pacific Northwest, leverage, and the timing of the original purchases – that continue to act as headwinds for the Forestland Program to meet its strategic goals. Staff anticipates bringing forward the Real Assets Strategic Plan in the spring of 2016, which will include a view on how the Forestland Program should best progress in the context of the total fund portfolio.

Should you require anything further or have any questions, please do not hesitate to contact us.

Best regards,

[i] Source: Forest Investment Associates, Quarterly Update, 3rd Quarter 2015