

Figure 6 Projected total water demand in the Middle Nzoia Catchment (Source: Researcher (2025))

4.3.3 General water demand projections (2022-2052)

Seasonal and long-term inflow trends under the Reference Scenario between 2022 and 2052 (Figure 7).

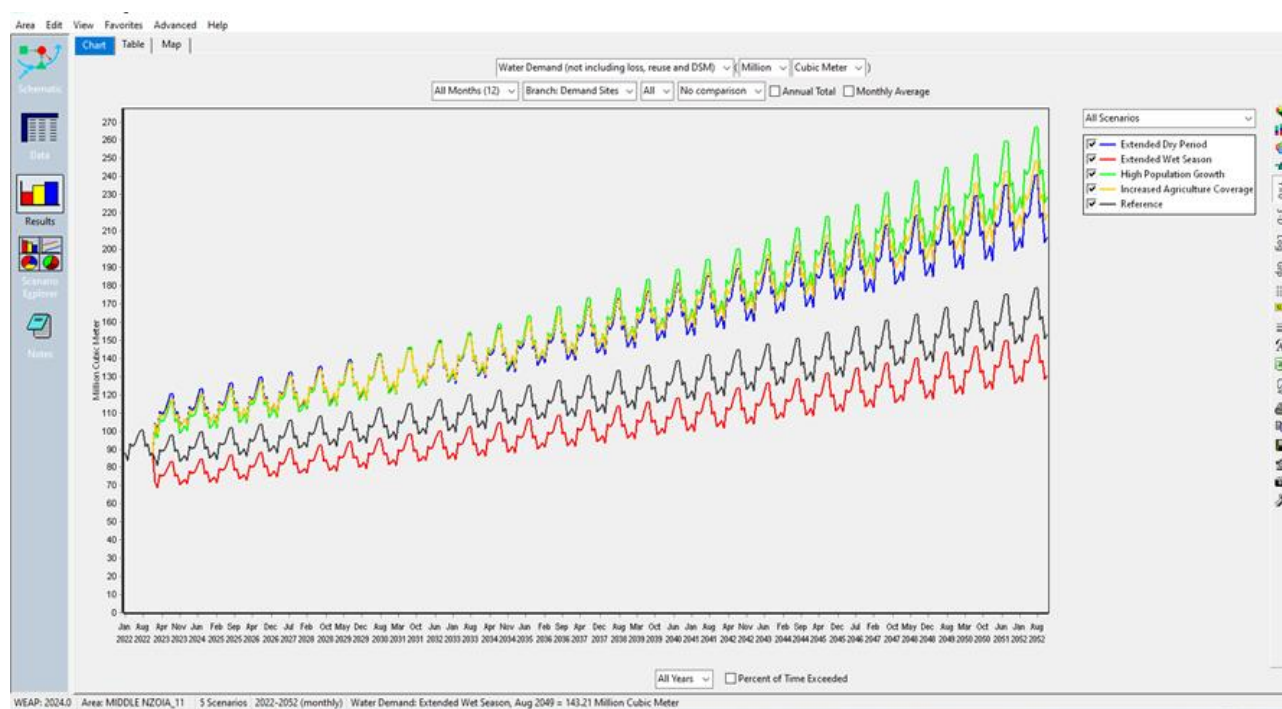


Figure 7 Monthly average inflows under the reference scenario (2022-2052) (Source: Researcher (2025))

Scenario-based analyses reveal varied demand patterns influenced by climate, population, and land use changes. The high population growth scenario shows the greatest increase, with peak demand reaching about $260 \times 10^6 \text{ m}^3$ to 50% rise over the base average ($178 \times 10^6 \text{ m}^3$) in contrast, the extended wet season scenario shows reduced demand, peaking at around $152 \times 10^6 \text{ m}^3$ approximately 14% below the base average due to increased rainfall availability, reduced irrigation needs and higher soil moisture storage.