

Literature Review/ Report

Economic expansion based on demographic and geographic characteristics of Floyd:

Based on the Comprehensive Plan(2011)[\[1\]](#) as developed by Floyd county, there exists a demand for further economic expansion while conserving the natural resources, primarily the vegetation cover and groundwater resources within the county.

One way of reducing the impact of economic development on the existing natural resources in the county could be through directing development in specific economic hubs/zones, either already existing ones or new preferred areas to reduce the pressure to develop on open space that might have valuable ecological functions such as buffering a water body.[\[2\]](#)

Given the concern regarding conserving the groundwater resources, we could also propose using green infrastructure strategies, including rain gardens, permeable soils or pavements, and green roofs, mimic natural processes to capture stormwater, slow it down, absorb some of it into the ground, and filter out pollutants before releasing the remaining runoff to storm sewers or waterways. Other elements such as rain barrels and cisterns can store runoff for non-potable uses such as irrigation, which helps conserve drinking water[\[2\]](#). This would enable potential economic development while reducing the burden on the existing water resources in the county.

The county currently mostly relies on agriculture and tourism alongside some retail for revenue generation and job creation[\[1\]](#).

Water quantity and quality map:

Existing data on water wells (depth and water quality) could be used to map out potential water contamination sites(though the data is sporadic mostly and could have selectivity bias). From the existing reports[\[3\]](#) on household water quality in Floyd county, there exists evidence of potential contamination from E.Coli as well as contamination from magnesium, nitrates and evidence of acidic water, which might lead to leaching of metals like copper and lead if present, in plumbing materials. This indicates the need for further testing of water quality for residential water sources. The county receives 40.79 inches of annual rainfall, though it widely varies across regions.[\[4\]](#) While setting up a public water service system with water sourcing from areas within the county with high precipitation and more accessible groundwater might be a good option, it might prove to be too costly for a county like Floyd.

Project Goal: Water plan that supports planned economic/residential development in Floyd?