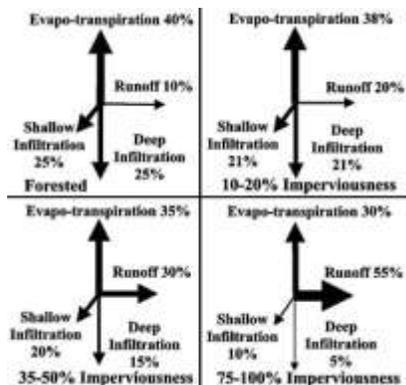


Why Impervious Surface is Important to Grand Valley Drainage District:

- Living in the Grand Valley we understand that rain can often come in localized ‘gully washers’ that badly effect some areas and not others. The next storm is just as likely to affect a different part of the valley. This means that a major storm can be concentrated over one or two of the drainage basins that cross the valley.
- In general, the amount of stormwater that runs off in a given storm increases from about 10% for undeveloped, no impervious surface ground, to about 55% in heavily developed, urbanized ground.
- When the drainage systems used by GVDD were designed and installed, most of the District’s service area acted like the top 2 examples; ~15% of stormwater acted as runoff.



From Paul MJ & Meyer JL. 2001. The ecology of urban streams. Annual Review of Ecology & Systematics 32:333-365. © 2001 by Annual Reviews

- As an example, if we consider the Leach Creek drainage basin inside GVDD we see an area of about 10,600 acres drains through that basin. Of that area, Mesa County Assessor’s data indicates 1,275 acres are parcels. The remaining areas are roads, ROW’s, etc. and in most cases have considerable impervious surface that is the responsibility of others.

Legend:

Magenta - GVDD’s Boundary

Blue - Parcels in GVDD

Green – Leach Creek Drainage Basin



- There are just over 2,000 parcels in this area. GVDD has identified almost 6,500 ERU’s, in the Leach Creek drainage basin. ERU is Equivalent Residential Unit – or the typical home’s impervious surface. Because 1 ERU= 2,500 square feet of impervious ground, we estimate that there are about 370 acres of impervious ground on these parcels. We make the **conservative** estimate that the ground in the Leach Creek Basin is now at least 35-55% impervious surface. Therefore, we estimate that runoff has increased from 15% to 30%.
- In conclusion: Because of the increase in impervious surface that came as a result of growth and development, **storm water runoff is 2 times** what it was when GVDD’s systems were sized and installed. And that surcharge overpowers and damages our drains that are used to convey stormwater *in addition to* irrigation return and seep flows. Those drain systems that are overpowered and/or damaged cannot prevent flooding.