

CE 3354 Engineering Hydrology

Lecture 19: Reservoir Storage and Discharge

Outline

- Exam 2 return and solutions
- Elevation-Area Concepts and Table
- Elevation-Discharge Concepts

Summary

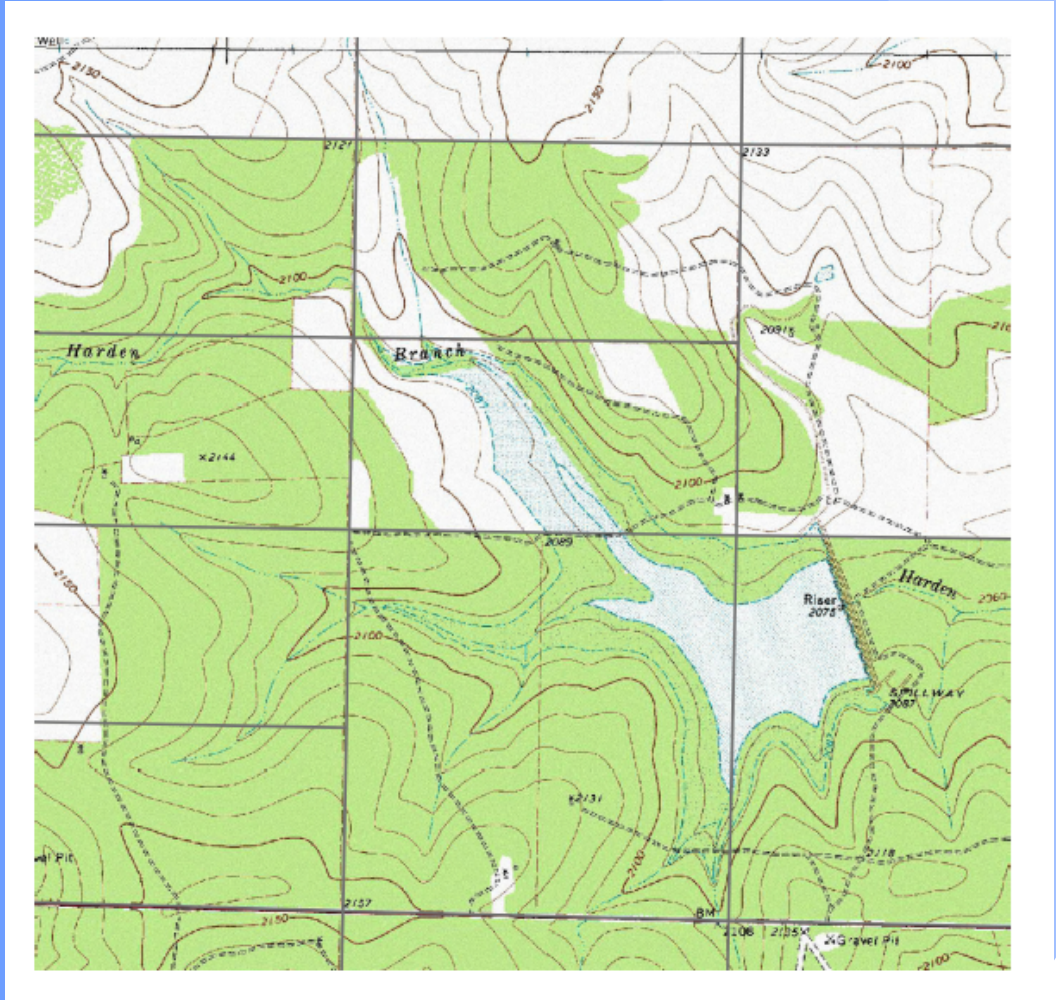
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 - Lag
 - Level pool routing (Puls)
 - Muskingum
 - Muskingum-Cunge
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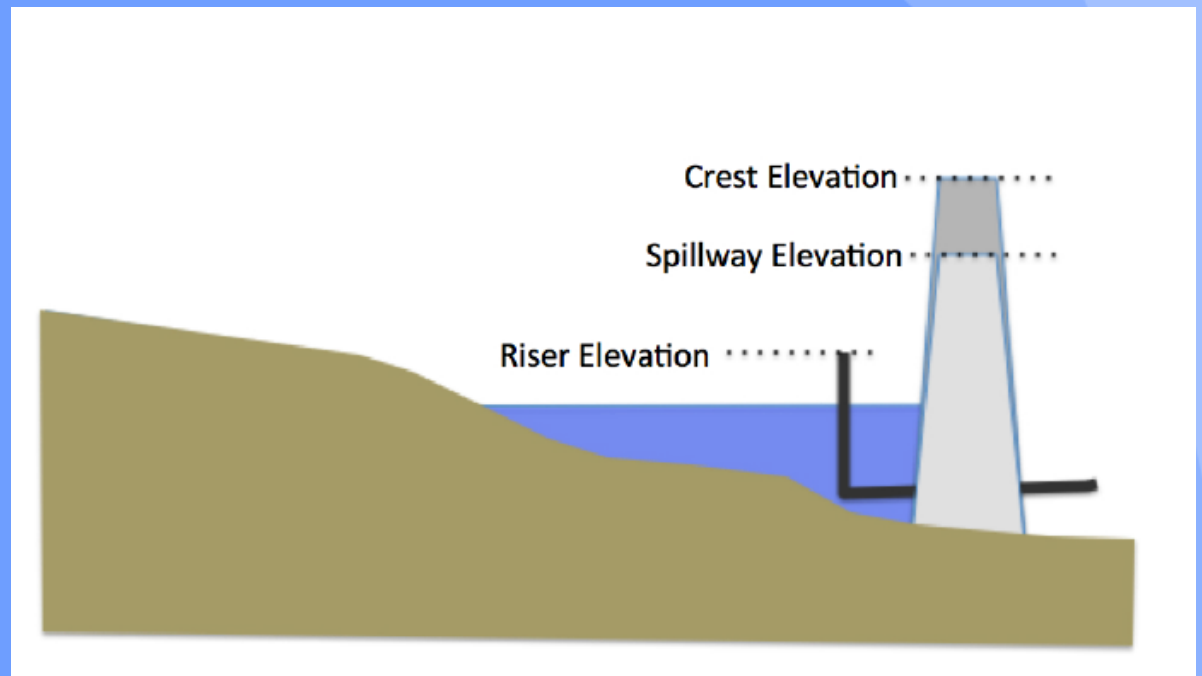
Elevation Area

- Elevation-Area
 - Determine pool area at different elevations
 - Use topographic map to find elevations and areas



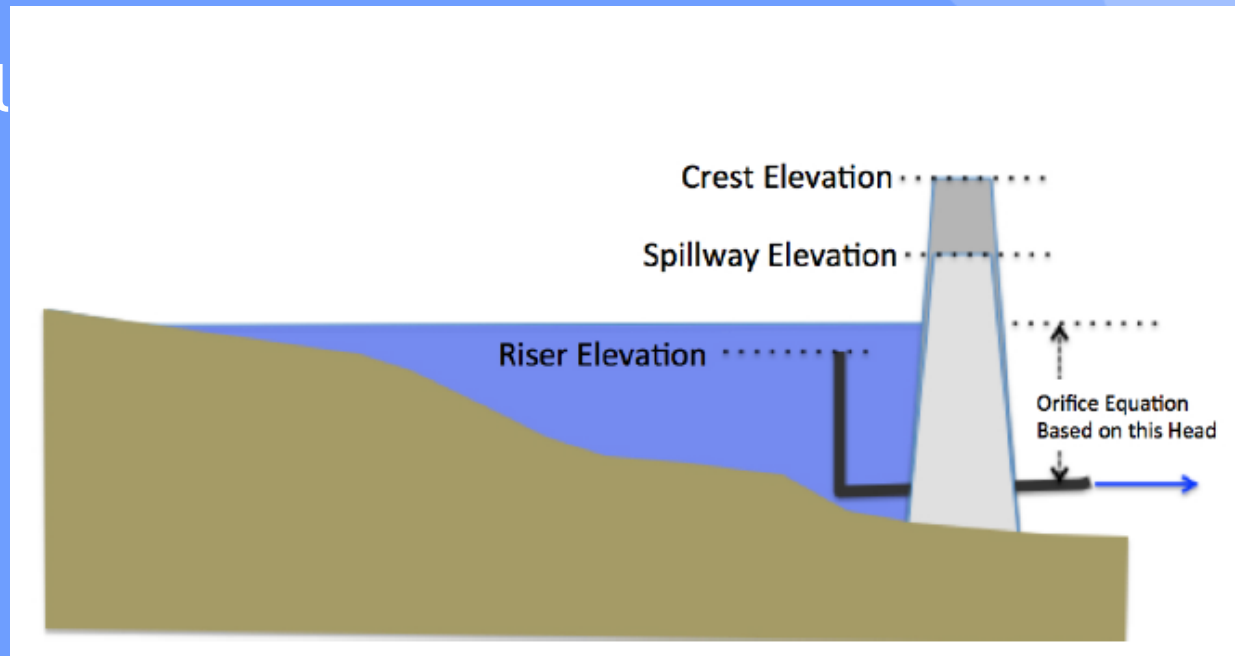
Elevation Discharge

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 - Determine pool area at different elevations
 - Use hydraulic outlet features to estimate discharge



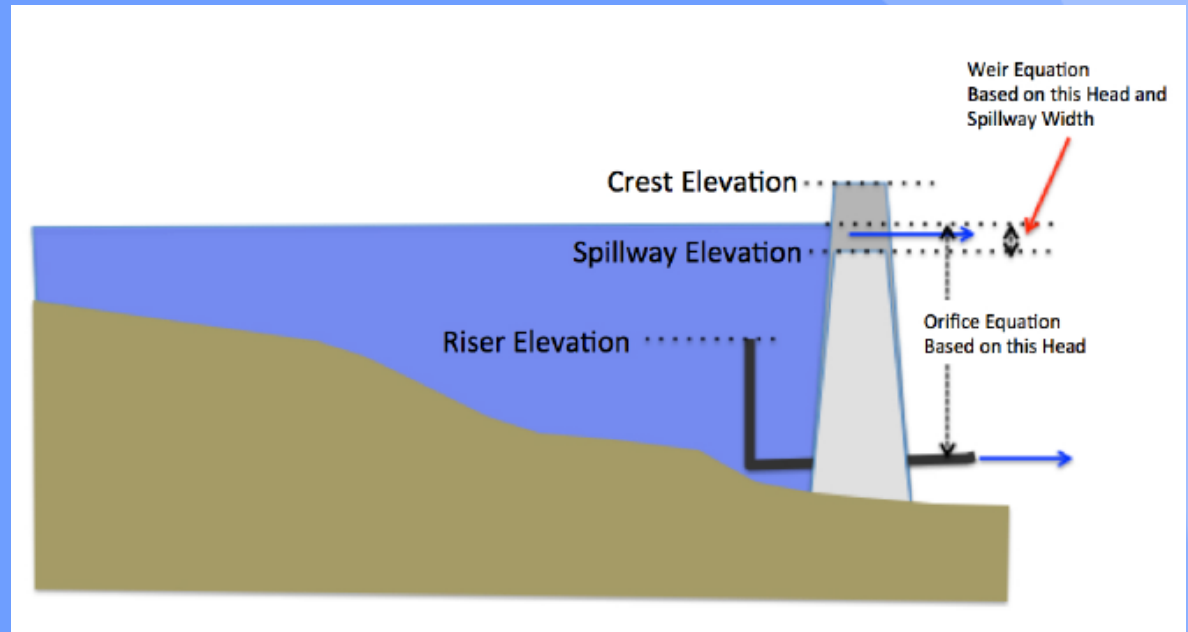
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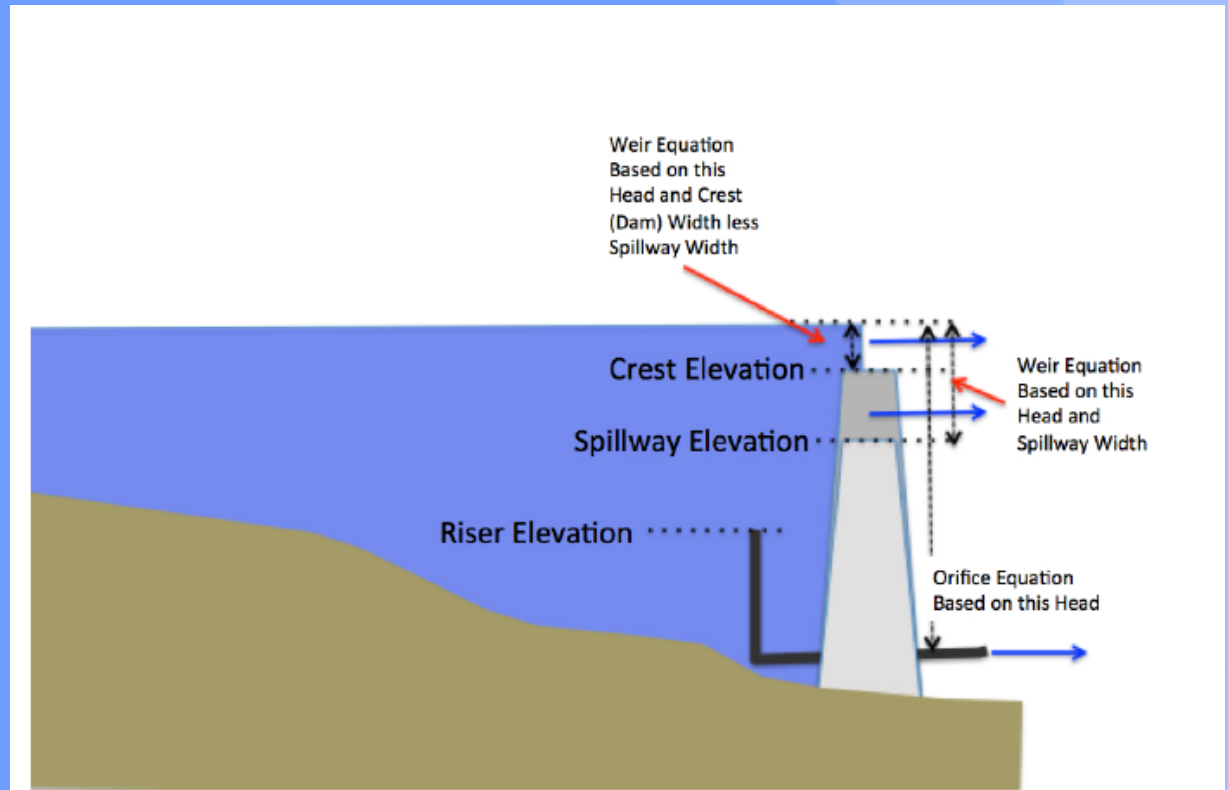
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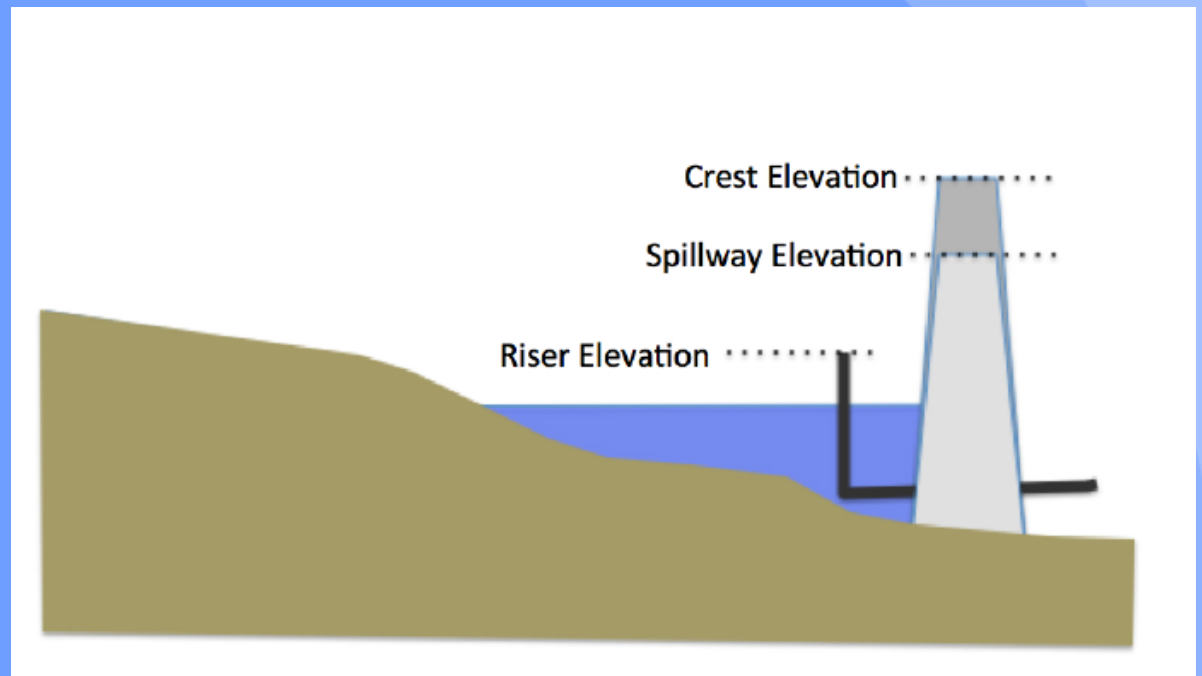
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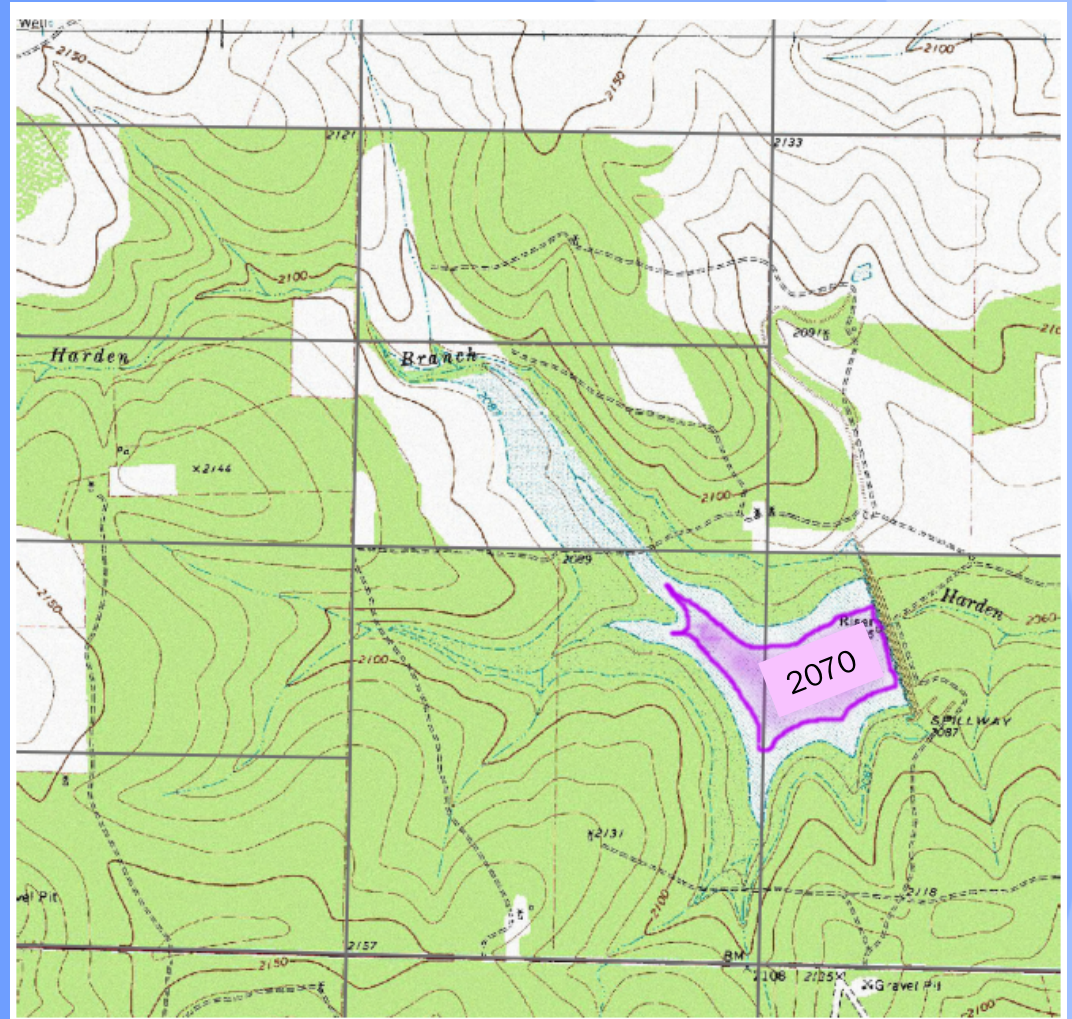
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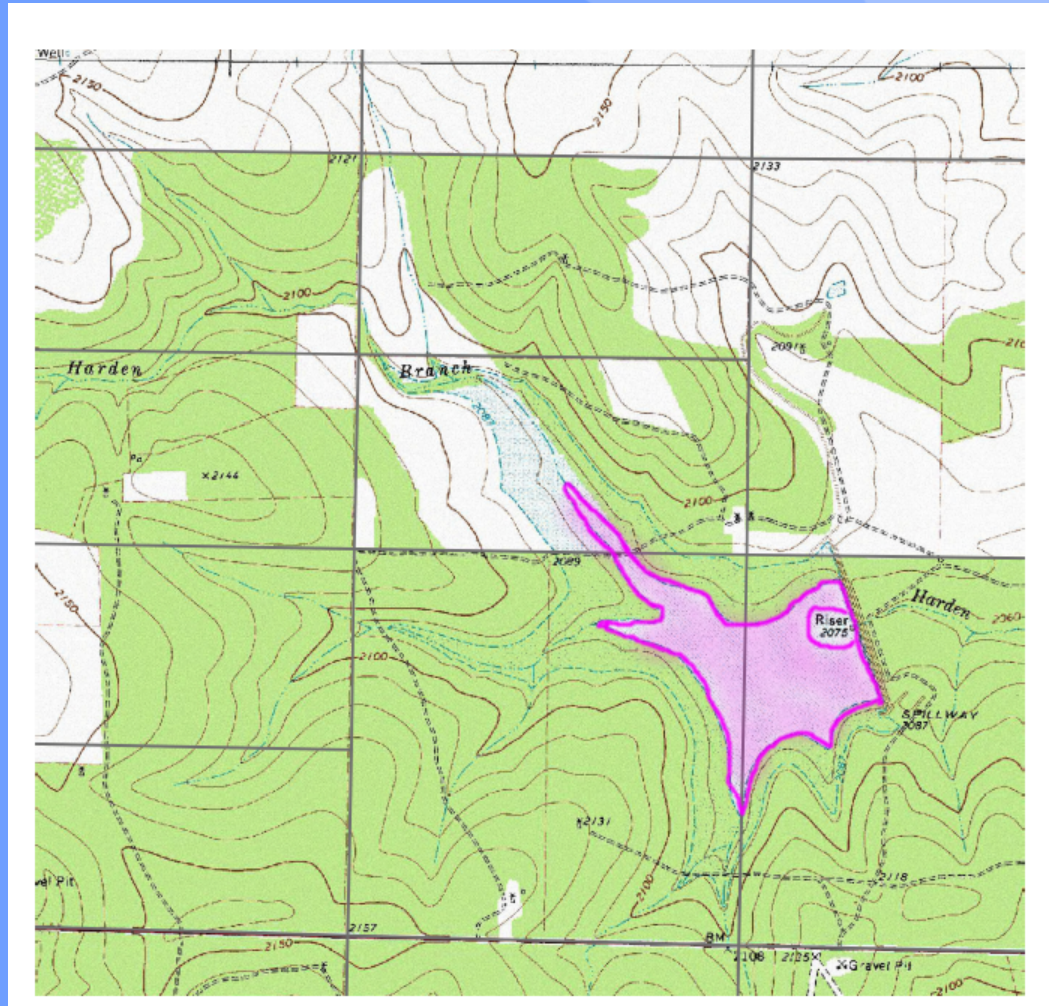
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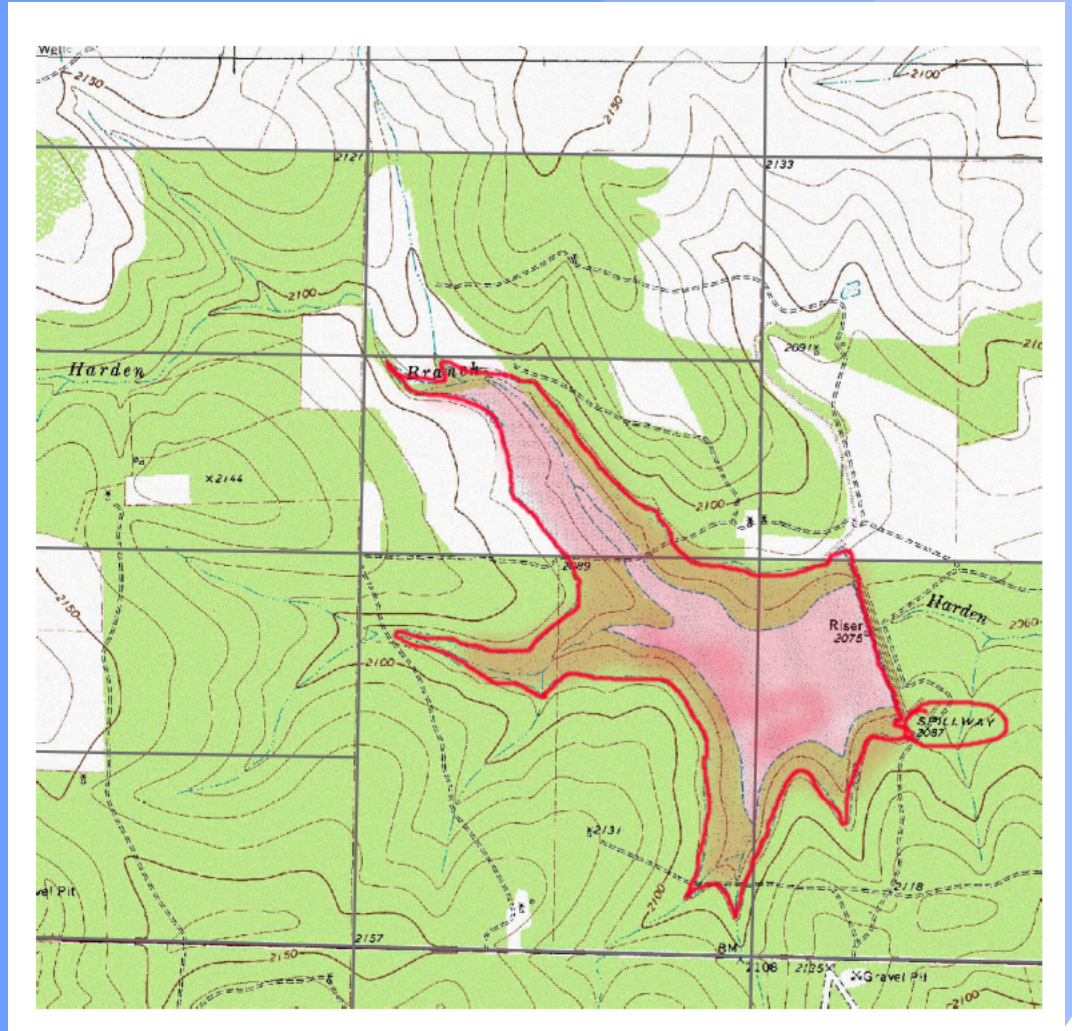
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Elevation-Area Table

- Results of each area measurement for each different elevation are recorded in a table that is used for the routing calculations either in:
 - HEC-HMS
 - Roll-your-own

West Reservoir		
WSE (ft)	Area (sq.mi)	Area (acres)
2065	0.00	0.00
2066	0.01	9.02
2067	0.03	21.82
2068	0.05	34.88
2069	0.08	48.19
2070	0.10	61.76
2071	0.12	75.58
2072	0.14	89.66
2073	0.16	104.00
2074	0.19	118.59
2075	0.21	133.44
2076	0.23	148.54
2077	0.26	163.90
2078	0.28	179.52
2079	0.31	195.39
2080	0.33	211.52
2081	0.36	227.90
2082	0.38	244.54
2083	0.41	261.44
2084	0.44	278.59
2085	0.46	296.00
2086	0.49	313.66
2087	0.52	331.58
2088	0.52	329.60
2089	0.52	329.60
2090	0.52	329.60

Next Time

- Elevation-Discharge Functions
- HEC-HMS Workshop (if needed)