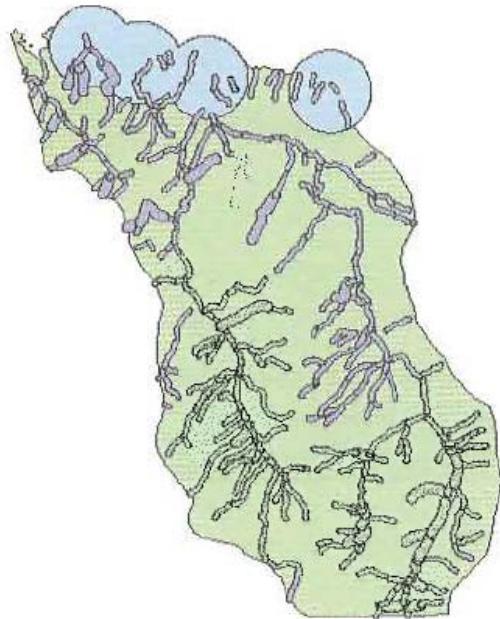


Solution for Homework No. 3: Spatial Analysis

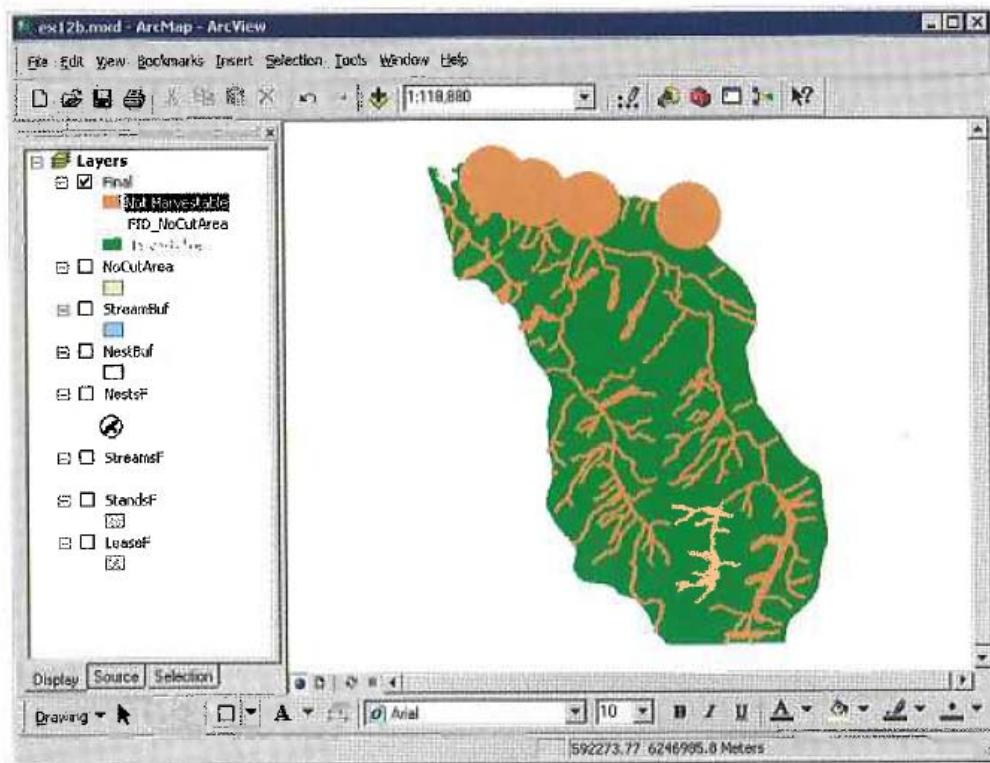
CEEN 4800/6965 - Special Topics

Geographic Information Systems and Hydrologic & Hydraulic Modeling, Dr. Sam Shamsi

Q1. Complete Exercise 12a (Buffering features). Submit a screenshot or map shown on page 324.



Q2. Complete Exercise 12b (Overlays data). Submit a screenshot or map shown on page 335.



Q3. Complete Exercise 12c (Calculating attribute values) and answer the following questions.

Question 3.1. Before completing Step 7: For harvestable area polygon with Object ID = 5, provide the following data:

Stand Value = **0.645025**

Value Per Meter = **26**

Stand ID = **337**

Note: Above values are also given in Table on Page 338.

Question 3.2. After completing Step 9: For harvestable area polygon with Object ID = 8, provide the following data:

Stand Value = **3.21903**

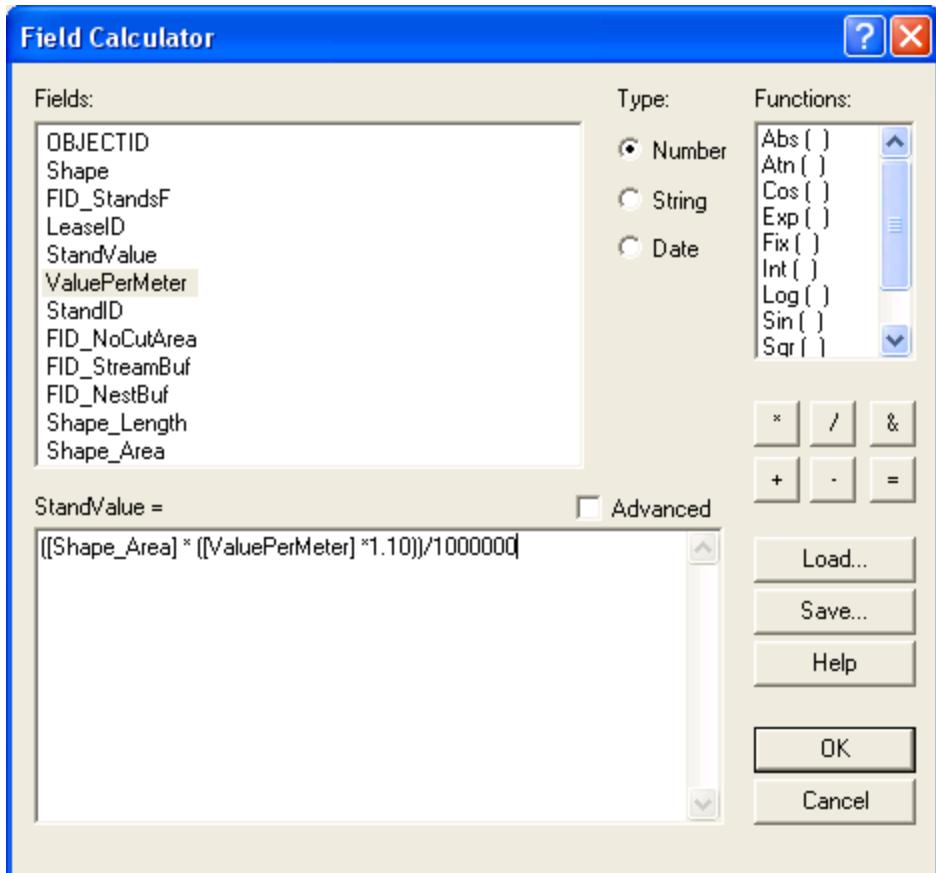
Value Per Meter = **21**

Stand ID = **364**

Note: Above values are also given in Table on Page 339.

Question 3.3. After completing Step 10: Suppose you underestimated stand unit cost (ValuePerMeter) by 10% in your calculations and would like to repeat your calculations to recalculate the correct bid price. To recalculate the bid price, repeat steps 7 to 10 but modify the expression entered in field calculator (Page 339) to increase the ValuePerMeter by 10% (i.e. multiply it by 1.1). Provide a screenshot of the revised Statistics window and answer the following question:

- The original bid price = **\$1,052.08379 million** or \$1.052 billion (Given on page 340. For units see bottom of Page 287)
- The corrected bid price = **\$1,157.292171 million** or \$1.157 billion
 - See Field Calculator screenshot below for revised SQL statement based on calculation method described at the bottom of Page 287.
 - See screenshot of Statistics window below for calculated value
- Percent difference in the original and corrected bid price = $(1157.292171 - 1052.08379) / 1052.08379 = 0.10 = \text{10\%}$



Attributes of Final

ObjectID*	Shape*	FID_StandsF	LeaseID	StandValue	ValuePerMeter	StandID	FID_NoCutArea	FID_StreamBuf	FID_NestBuf
1	Polygon		1 F	5.92417	63	305	-1	0	
2	Polygon		2 F	4.85624	27	308	-1	0	
3	Polygon		3 F	3.41113	64	328	-1	0	
4	Polygon		4 F	5.42592	52	338	-1	0	
5	Polygon		5 F	0.709528	26	337	-1	0	
6	Polygon		6 F	2.64208	25	345	-1	0	
7	Polygon		7 F	8.07129	27	360	-1	0	
8	Polygon		8 F	3.54094	21	364	-1	0	
9	Polygon		9 F	5.35578	42	358	-1	0	
10	Polygon		10 F	4.88866	21	362	-1	0	
11	Polygon		11 F	3.65178	53	363	-1	0	
12	Polygon		12 F	1.0181	27	348	-1	0	
13	Polygon		13 F	1.04206	53	359	-1	0	
14	Polygon		14 F	0.674394	27	387	-1	0	
15	Polygon		15 F	0.942524	43	386	-1	0	
16	Polygon		16 F	3.88115	10	378	-1	0	
17	Polygon		17 F	7.2395	21	380	-1	0	
18	Polygon		18 F	0.503607	27	408	-1	0	
40	Polygon		40 F	0.04544	26	400	-1	0	

Record: 14 | 0 | Show: All | Selected | Records: 0 out of 372 Selected. | Options

