# Exploration of Net Residual

(for purposes of considering
canal seepage &
mixed-source lands)

- Net residual is

(Diversions - Returns - ET + Precip)

- Charts show **Net Residual Fraction**

$$\frac{\text{(Diversions - Returns - ET + Precip)}}{\text{(Diversions)}}$$

- Net residual must be apportioned to canal seepage and percolation
- In model data, returns will be zeroed to allow On-Farm method to function
- "BEFORE RED" values are GIS acreage
- "Mixed Fraction" is the fraction of mixed-source supply ***FROM SW.*** In the past we have talked about fraction *from GW.*

# How will we use the Net Residual Fraction?

- Definitions:

1. CU = consumptive use volume from irrigation
2. CNL = canal seepage volume
3. PERC = in-field percolation volume
4. Div = diversion volume
   = CU + CNL + PERC
5. F = field headgate delivery volume
   = CU + PERC
6. R = residual volume
   = (CNL + PERC) = (Div - CU)

# How will we use the Net Residual Fraction?

- Definitions:

7. $CUF_{div}$ = consumptive use fraction of diversion volume
   = CU/Div
8. $CUF_{field}$ = consumptive use fraction of field headgate volume
   = CU/F
9. $PF_{div}$ = percolation fraction of diversion volume
   = PERC/Div

# How will we use the Net Residual Fraction?

- Definitions:

10. $PF_{field}$ = percolation fraction of field headgate volume
    = PERC/F
11. $FF_{div}$ = field headgate fraction of diversion volume
    = F/Div
12. $CF_{div}$ = canal fraction of diversion volume
    = CNL/div

# How will we use the Net Residual Fraction?

- Definitions:

13. $RF_{div} = R/Div$

# How will we use the Net Residual?

- Assumptions:
  1. $CUF_{field}$ = 0.65 +/- 0.20
  2. $PF_{field}$ = 0.35 +/- 0.20

- Calculations:
  1. $CUF_{field}$ = CU/F (D8)
  2. CUFfield = 0.65 (A1)
  3. CU/F = 0.65 --> CU = 0.65 F
  4. CU = 0.65 (CU + PERC) (D5)

# How will we use the Net Residual?

- Calculations:

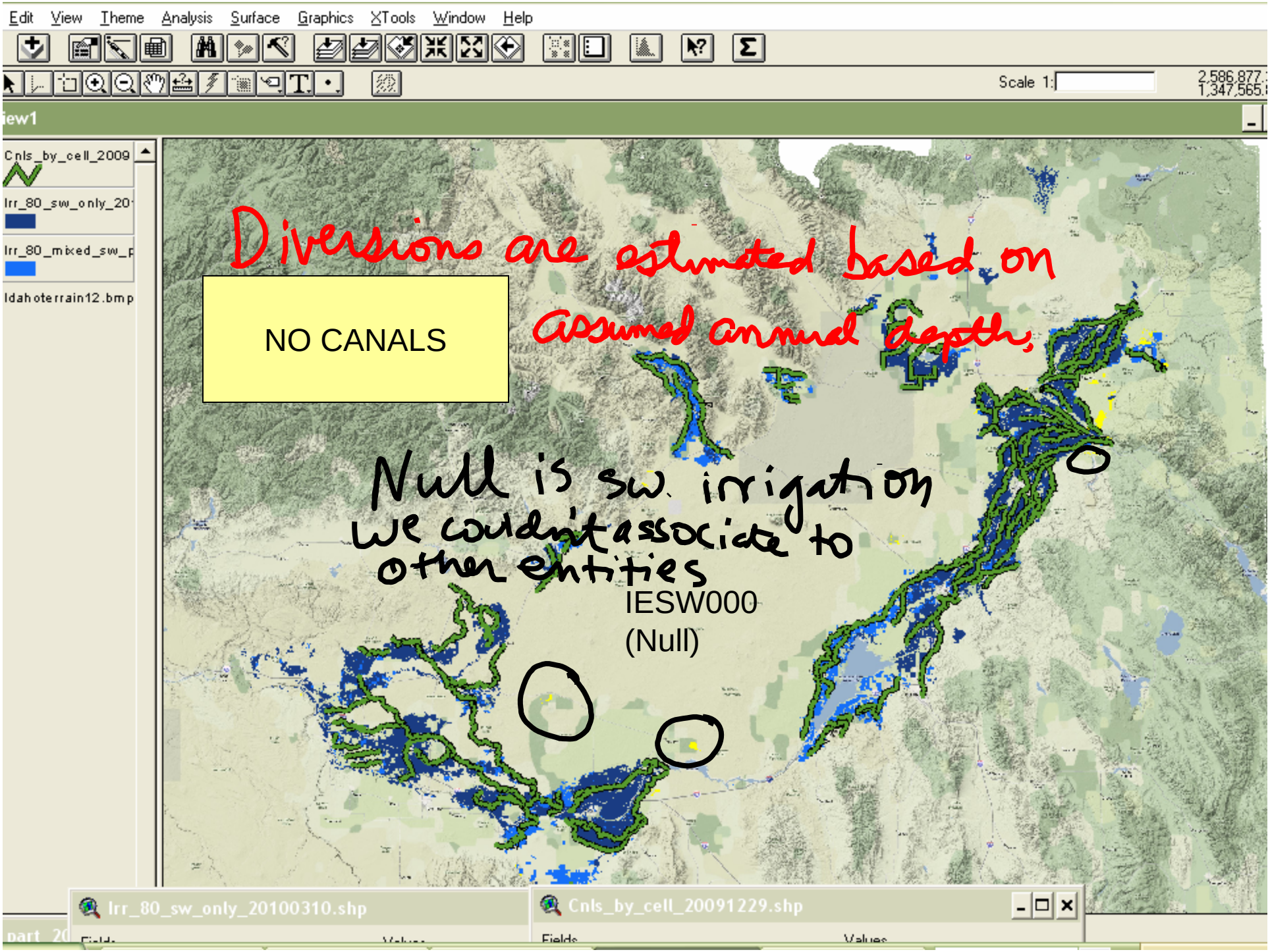
5. PERC = [(1-0.65)/0.65]  CU
6. PERC = 0.54  CU
7. CNL + PERC = R (D6)
8. CNL = R - 0.54  CU
9. CNL = R - 0.54  (Div - R) (D6)
10. CNL = 1.54 R - 0.54 (Div)
11. CNL/Div = 1.54 (R/Div) - 0.54
12. $CF_{div} = 1.54\ RF_{div} - 0.54$

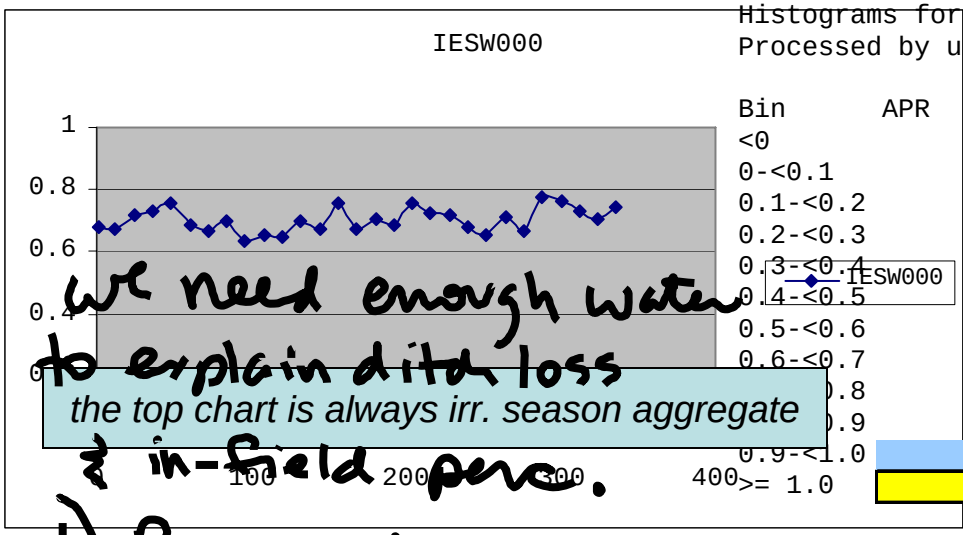
# How will we use the Net Residual?

- Resulting Equation:

$$CF_{div} = 1.54\ RF_{div} - 0.54$$

  - $RF_{div}$ is what we have plotted from data
  - If we use the equation to calculate $CF_{div}$, we will get a value for $CF_{div}$ that honors the returns data implicit in net diversions and honors the assumptions
  - If $CF_{div}$ is unreasonable, we will look at mixed-source lands


Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
NO CANALS
Diversions are estimated based on assumed annual depth,
Null is sw irrigation we couldn't associate to other entities
IESW000
(Null)
Irr_80_sw_only_20100310.shp
Cnls_by_cell_20091229.shp
Fields
Values




we need enough water to explain ditch loss & in-field perc.

*the top chart is always irr. season aggregate*

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_000_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:49 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 9 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 3 | 7 | 2 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 11 | 5 | 2 | 0 |
| 0.5-<0.6 | 0 | 1 | 0 | 13 | 2 | 6 | 0 |
| 0.6-<0.7 | 1 | 0 | 5 | 2 | 1 | 9 | 0 |
| 0.8 | 0 | 6 | 17 | 0 | 0 | 5 | 2 |
| 0.9 | 5 | 13 | 7 | 0 | 0 | 4 | 5 |
| 0.9-<1.0 | 18 | 9 | 0 | 0 | 0 | 1 | 10 |
| >= 1.0 | 4 | 0 | 0 | 0 | 0 | 0 | 12 |

1) Re-do divs to match ET 2) Add IESW031, 041

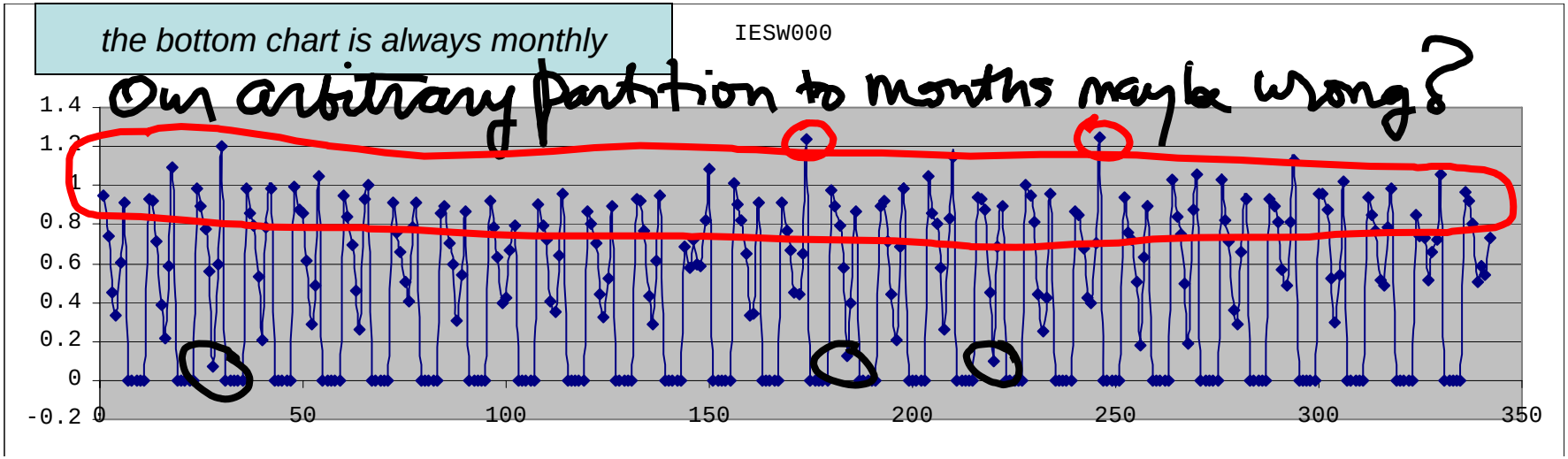
BEFORE RED
Entity IESW000

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 6251.047 | 8309.789 | 9096.852 | 0 | 14560.84 | 0.91348 |
| Irr_86 | 0 | 12239.16 | 8750.578 | 9445.941 | 0 | 20989.73 | 0.926385 |
| Irr_92 | 0 | 4314.557 | 7463.036 | 8093.431 | 0 | 11777.59 | 0.92211 |
| Irr_00 | 0 | 10369.43 | 9076.376 | 9838.9 | 0 | 19445.81 | 0.922499 |
| Irr_06 | 0 | 12555.58 | 9240.755 | 10005.63 | 0 | 21796.33 | 0.923556 |

"MixFrac:"
(net acres w/ source = "mixed")
(total acres w/ source = mixed)

*the bottom chart is always monthly*

Our arbitrary partition to months maybe wrong?



# No explicit canals

If $CF_{Div} = 0.2$ then

$CU + PERC = 0.8$ Div

IF Perc $= 0.54$ cu then

$\frac{1.54}{0.8} CU = DIV$

$CU/Div = 0.8/1.54 = 0.52$

$Perc/Div = 0.54(cu/div) = 0.28$

# Check

CU/DIV = 0.52 ✓

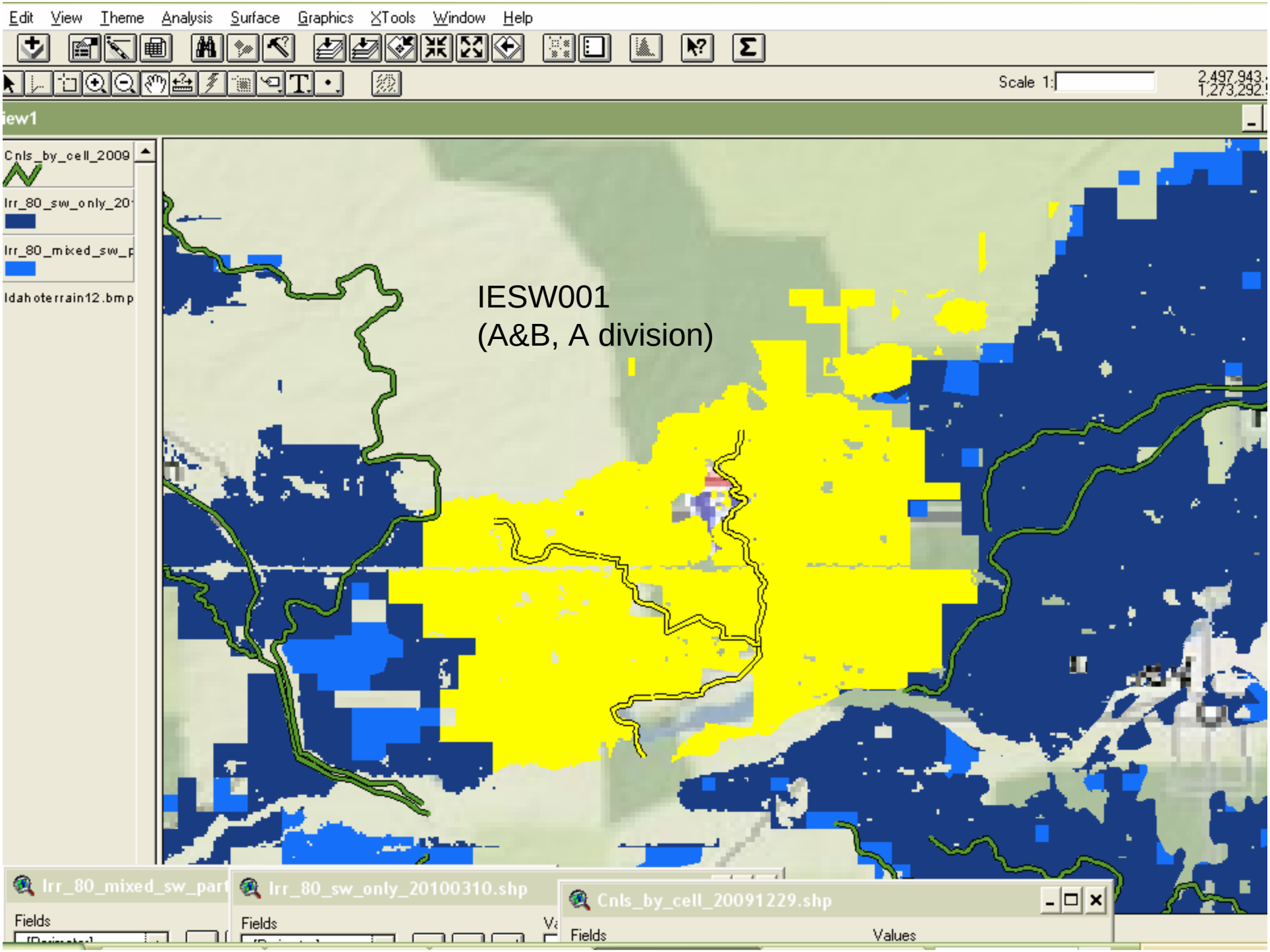
PERC/DIV = 0.28 ✓

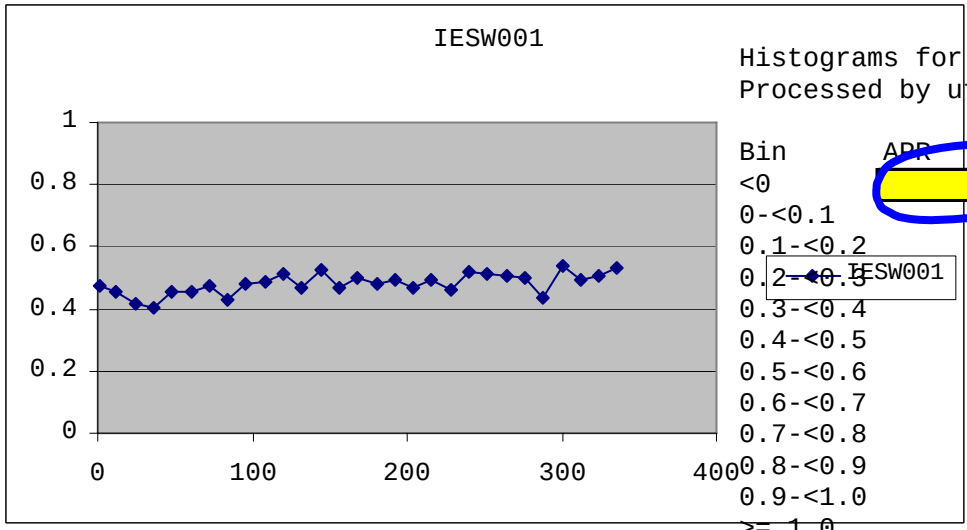
CNL/DIV = 0.20 ✓

$\Sigma$ = 1.00 ✓

$$\frac{CU}{CU + Perc} = \frac{0.52\ Div}{(0.52 + 0.28)\ DIV}$$

$$= \frac{0.52}{0.80} = 0.65$$


Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW001
(A&B, A division)
Irr_80_mixed_sw_part
Irr_80_sw_only_20100310.shp
Cnls_by_cell_20091229.shp
Fields
Values




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_001_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:49 PM

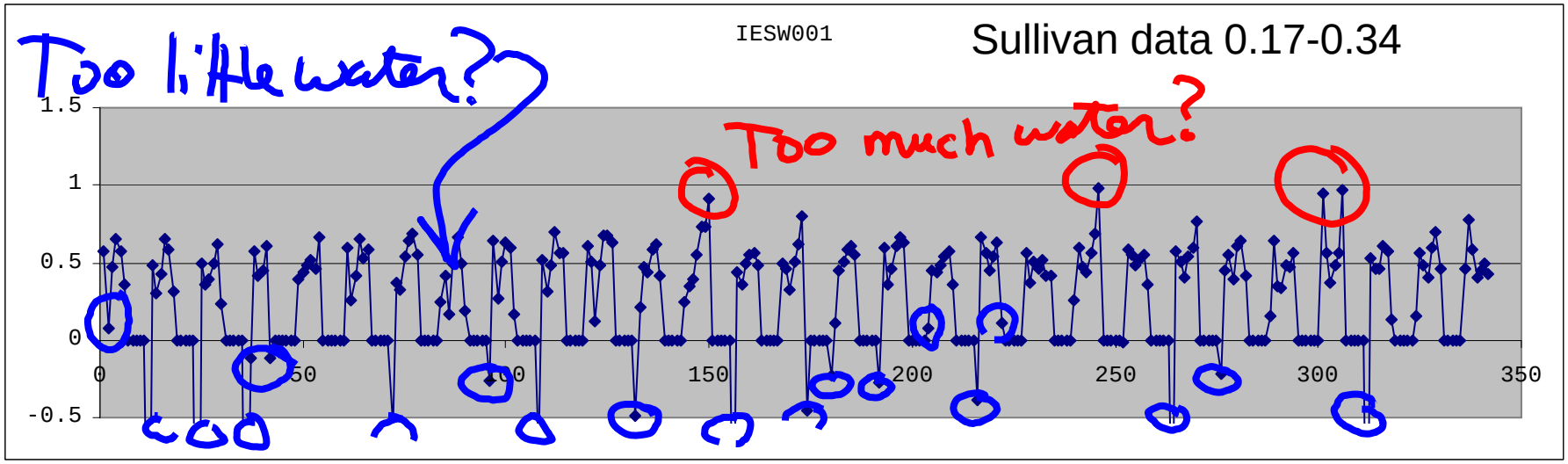
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 15 | 1 | 0 | 0 | 0 | 0 | 2 |
| 0-<0.1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 2 | 1 | 2 | 0 | 0 | 0 | 4 |
| 0.2-<0.3 | 3 | 1 | 2 | 0 | 0 | 0 | 1 |
| 0.3-<0.4 | 0 | 4 | 9 | 4 | 0 | 0 | 4 |
| 0.4-<0.5 | 2 | 7 | 7 | 20 | 5 | 5 | 6 |
| 0.5-<0.6 | 1 | 10 | 8 | 5 | 11 | 11 | 5 |
| 0.6-<0.7 | 1 | 3 | 0 | 0 | 12 | 10 | 3 |
| 0.7-<0.8 | 0 | 1 | 0 | 0 | 1 | 3 | 1 |
| 0.8-<0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.9-<1.0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

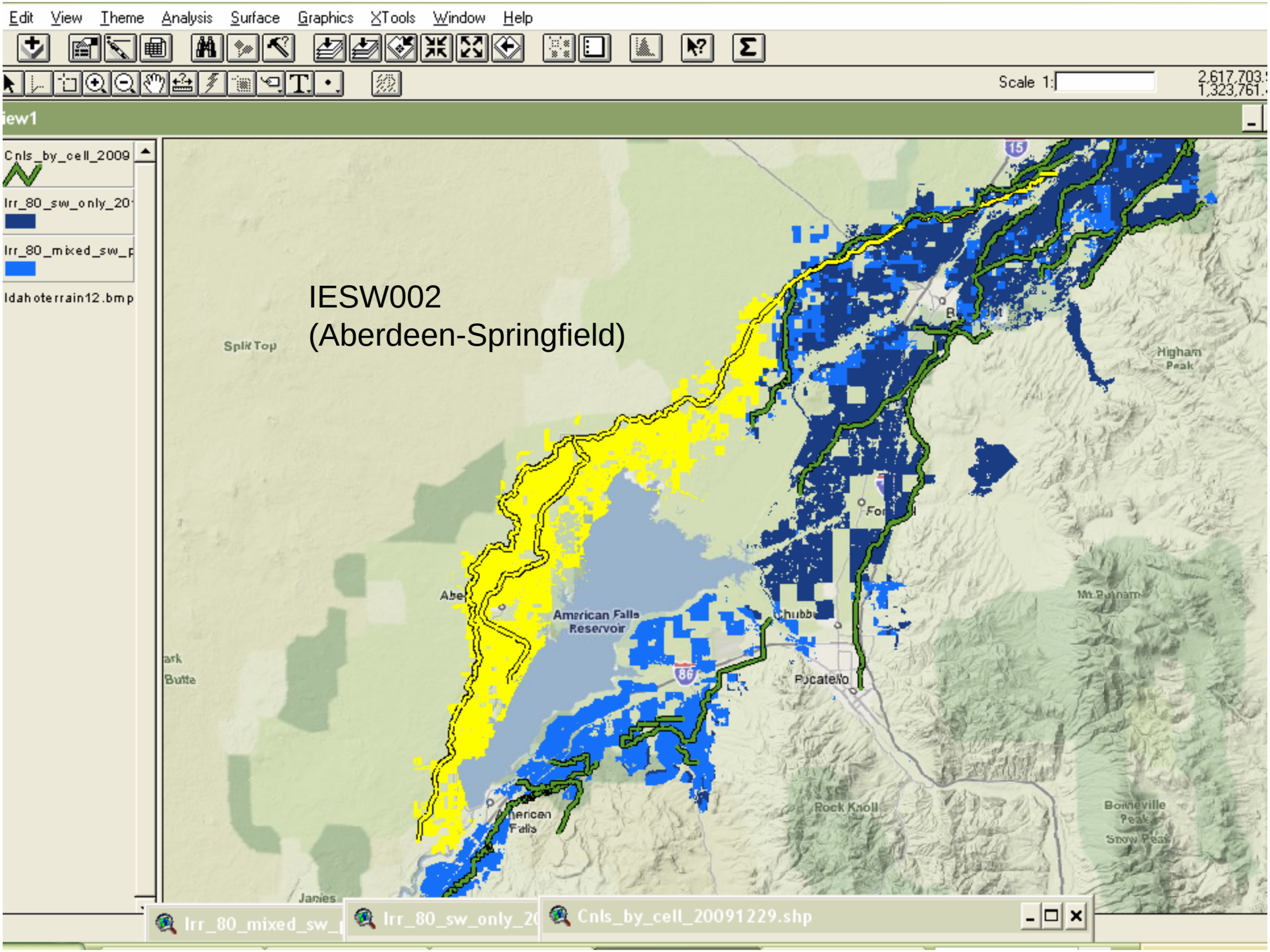
$CF_{div} = 1.54\, RF_{div} - 0.54$

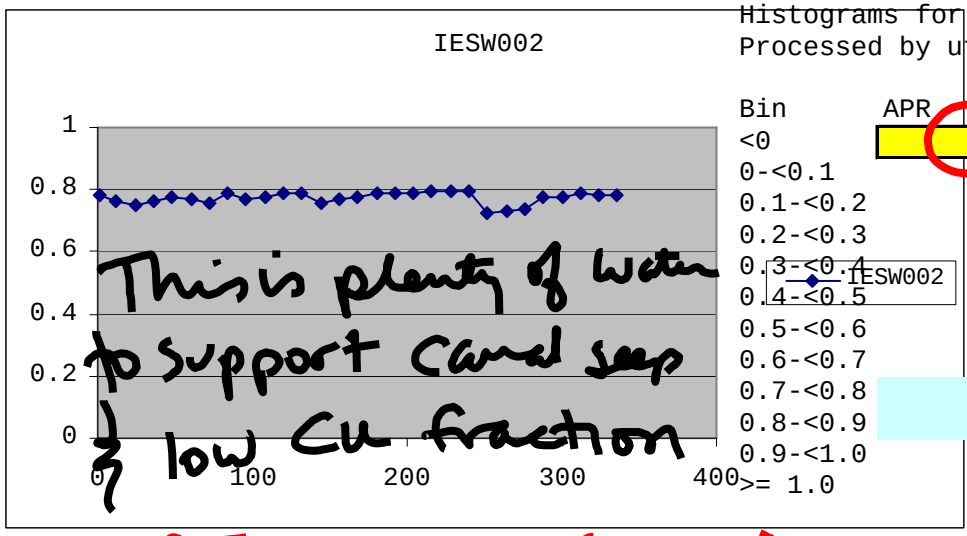
$\approx 0.15$ ✓

BEFORE RED
Entity IESW001

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 9315.729 | 4772.01 | 9544.02 | 0 | 14087.74 | 0.5 |
| Irr_86 | 0 | 7809.886 | 4154.134 | 8308.249 | 0 | 11964.02 | 0.500001 |
| Irr_92 | 0 | 8773.783 | 4615.718 | 9231.418 | 0 | 13389.5 | 0.500001 |
| Irr_00 | 0 | 8576.611 | 4530.534 | 9061.062 | 0 | 13107.15 | 0.5 |
| Irr_06 | 0 | 7867.46 | 4255.116 | 8510.184 | 0 | 12122.58 | 0.500003 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW002
(Aberdeen-Springfield)
Split Top
American Falls Reservoir
Pocatello
Chubbuck
Rock Knoll
Bonneville Peak
Snow Peak
Mt Putnam
Higham Peak
Butte
Janies
Irr_80_mixed_sw_
Irr_80_sw_only_2
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_002_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:49 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.5-<0.6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.6-<0.7 | 4 | 0 | 3 | 15 | 2 | 0 | 0 |
| 0.7-<0.8 | 6 | 15 | 25 | 14 | 16 | 3 | 1 |
| 0.8-<0.9 | 11 | 14 | 1 | 0 | 11 | 25 | 12 |
| 0.9-<1.0 | 3 | 0 | 0 | 0 | 0 | 1 | 12 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

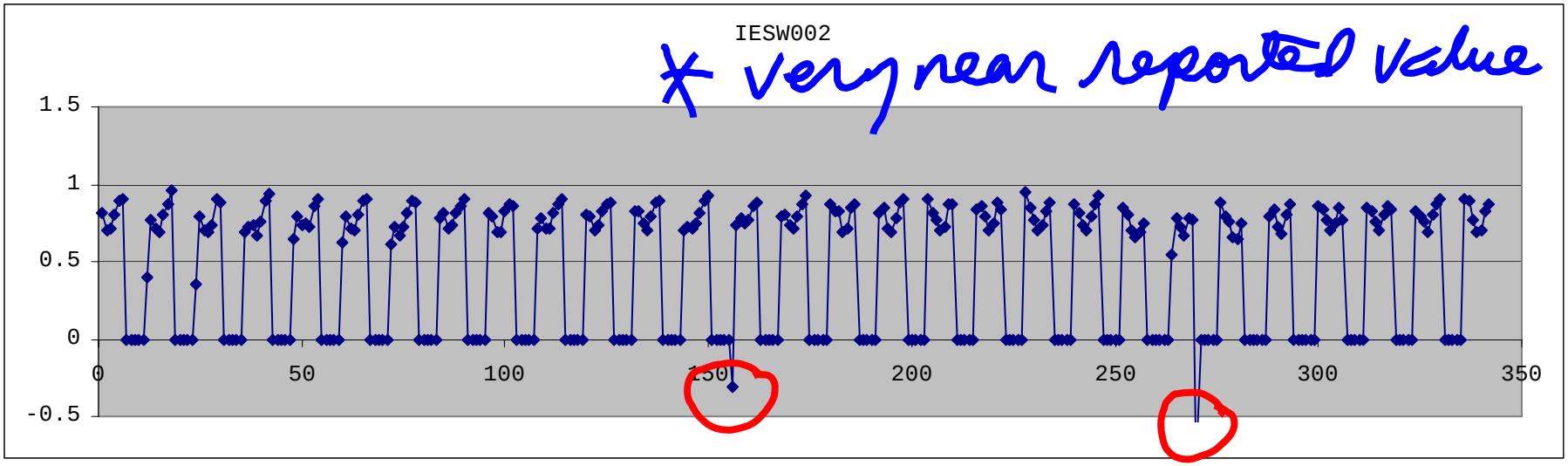
temporal mismatch - root zone storage?

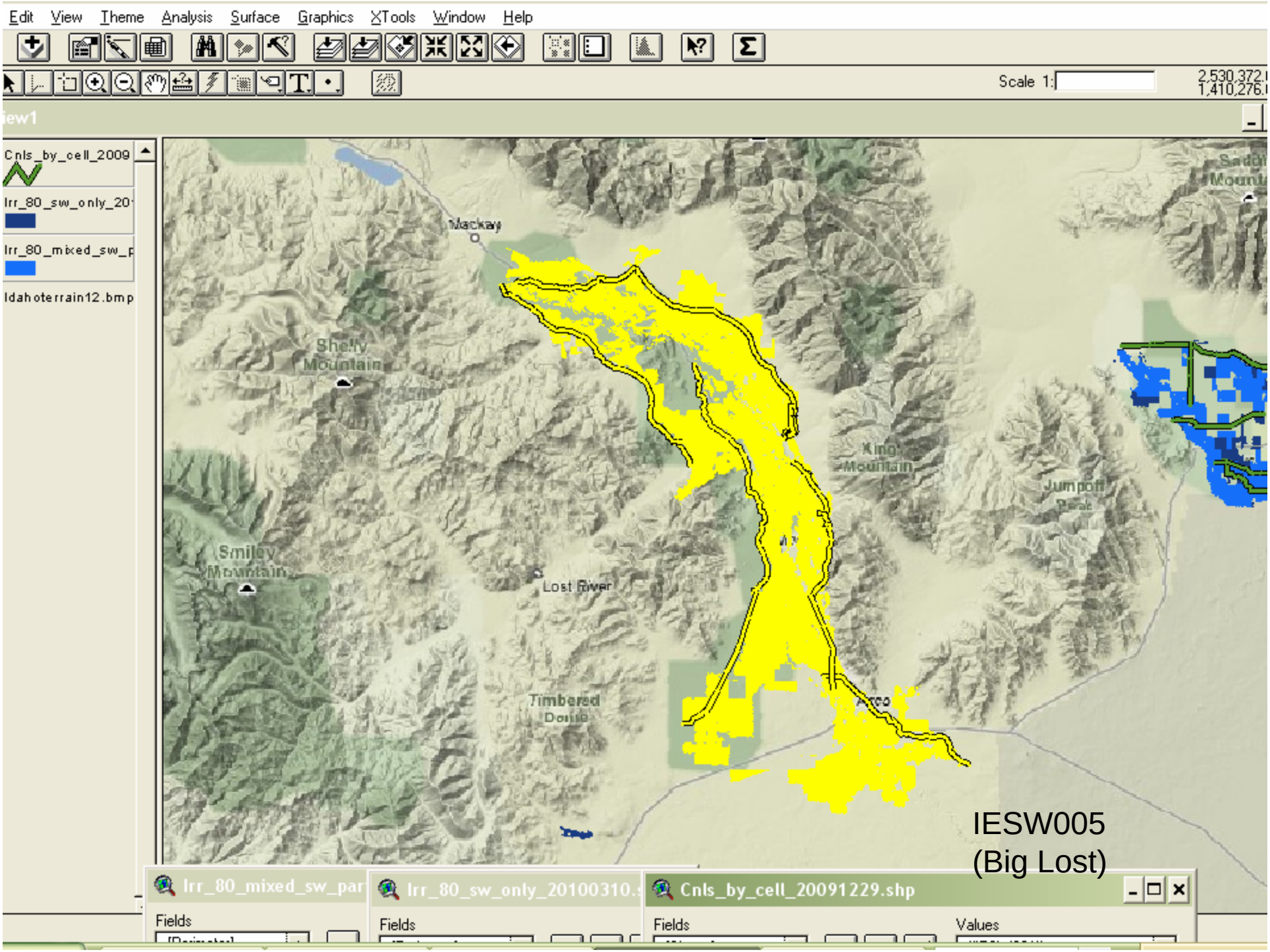
$CF_{DIV} = 1.54(0.75) - 0.54 = 0.62$ *

BEFORE RED
Entity IESW002

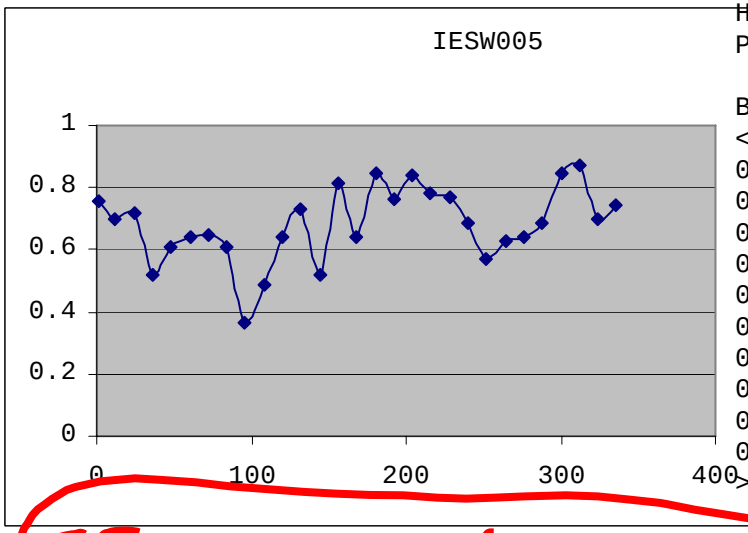
| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 3723.732 | 24391.9 | 62807.61 | 0 | 28115.63 | 0.388359 |
| Irr_86 | 0 | 2475.264 | 21140.77 | 54688.13 | 0 | 23616.03 | 0.38657 |
| Irr_92 | 0 | 2128.397 | 22682.62 | 58940.09 | 0 | 24811.02 | 0.384842 |
| Irr_00 | 0 | 2940.916 | 22163.98 | 57918.97 | 0 | 25104.89 | 0.382672 |
| Irr_06 | 0 | 1823.155 | 21036.53 | 54631.77 | 0 | 22859.68 | 0.38506 |

Increase this if CU fraction is still too low.






IESW005
(Big Lost)




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_005_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:49 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 1 | 0 | 0 | 0 | 1 | 1 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 2 | 1 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 2 | 3 | 2 | 0 |
| 0.4-<0.5 | 1 | 3 | 2 | 3 | 4 | 1 | 1 |
| 0.5-<0.6 | 1 | 2 | 3 | 5 | 4 | 3 | 0 |
| 0.6-<0.7 | 0 | 5 | 8 | 10 | 8 | 7 | 2 |
| 0.7-<0.8 | 4 | 11 | 10 | 5 | 7 | 3 | 3 |
| 0.8-<0.9 | 3 | 2 | 5 | 1 | 0 | 7 | 7 |
| 0.9-<1.0 | 7 | 6 | 1 | 0 | 0 | 2 | 7 |
| >= 1.0 | 9 | 0 | 0 | 0 | 0 | 0 | 5 |

Supplemental GW used at these times?

temporal mismatch

$CF_{div} = 0.5(1.54 - 0.54) = 0.23$

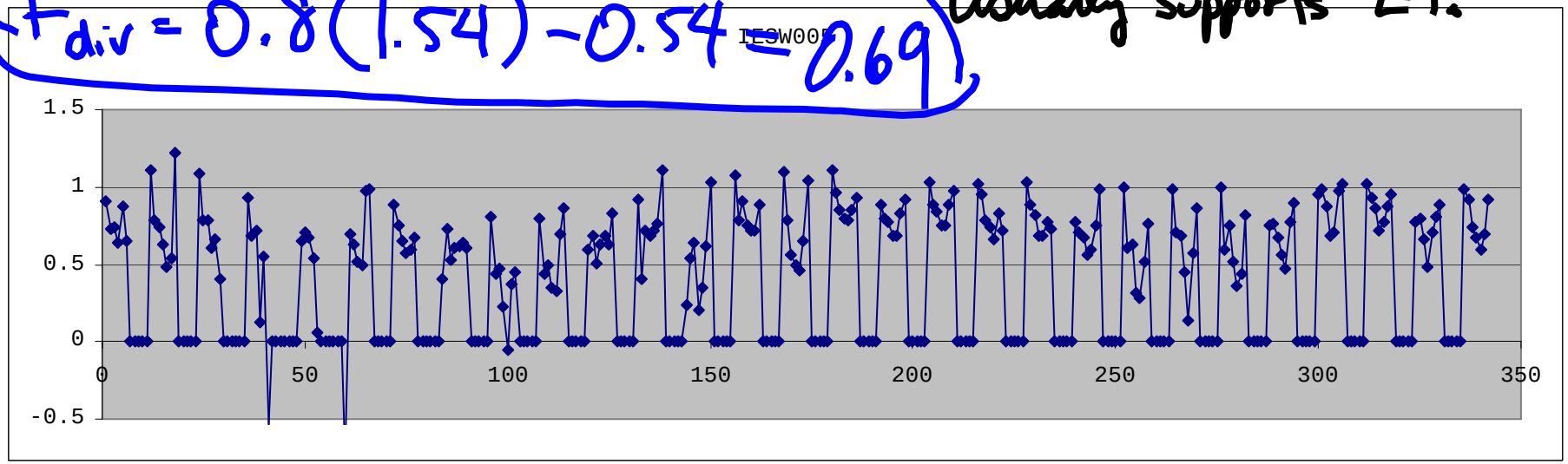
(high water supplies = no supplemental used?

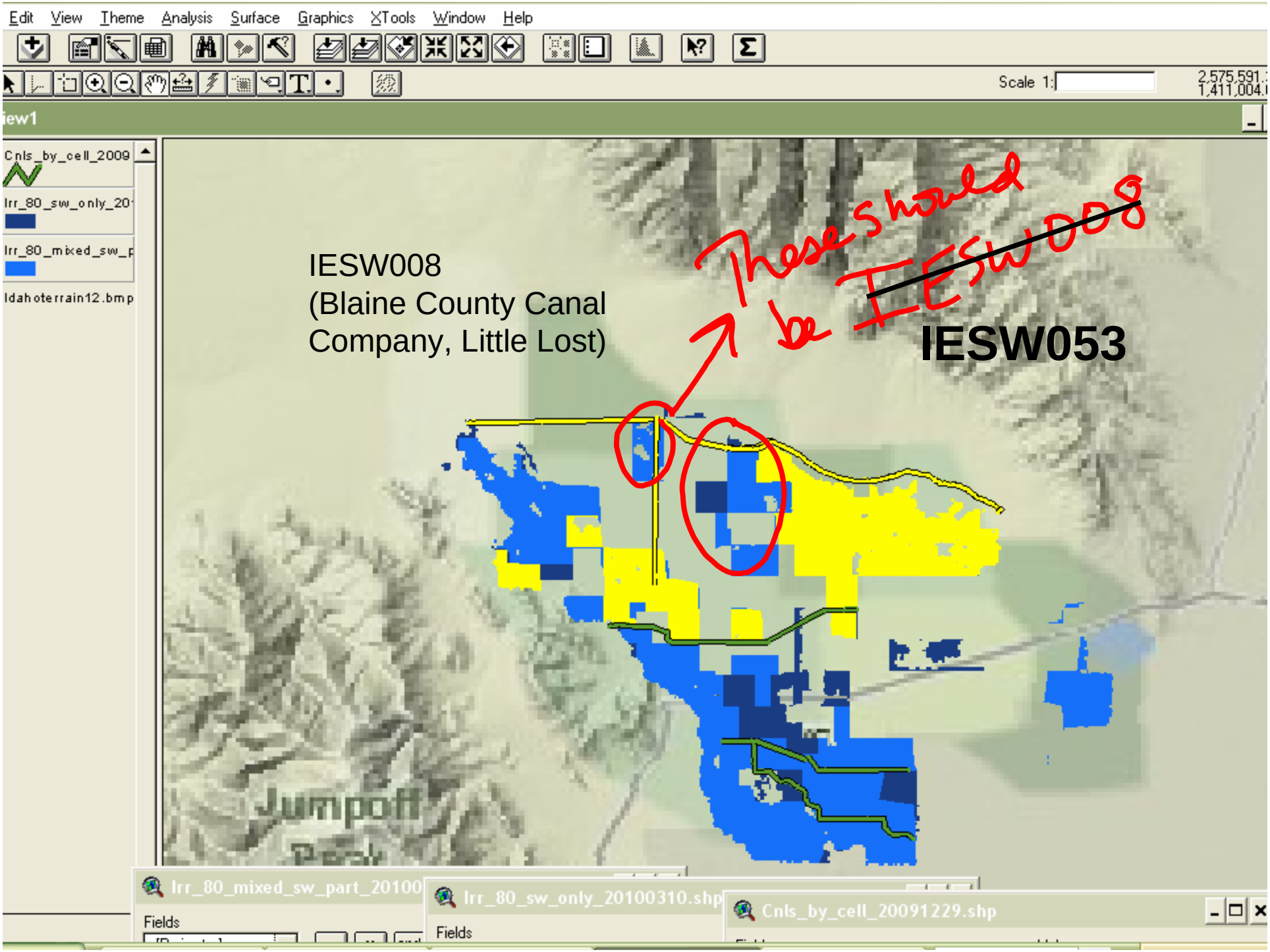
BEFORE RED
Entity IESW005

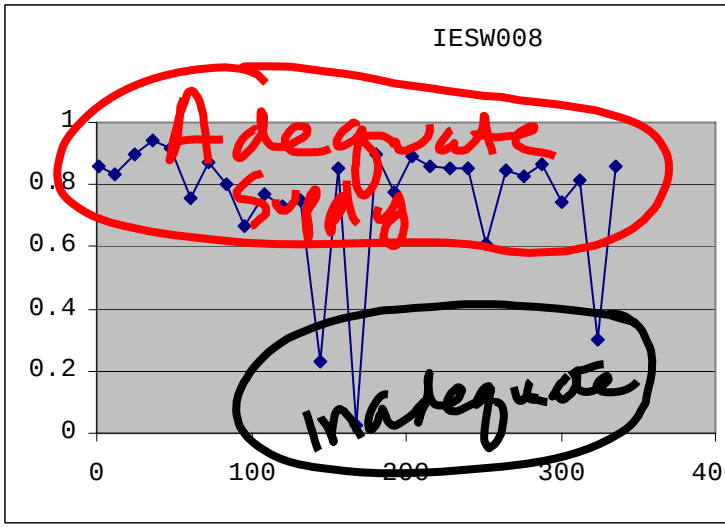
| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 18965.06 | 10181.06 | 46758.57 | 0 | 29146.12 | 0.217737 |
| Irr_86 | 0 | 17021.88 | 10711.14 | 47266.97 | 0 | 27733.02 | 0.226609 |
| Irr_92 | 0 | 11613.84 | 9856.311 | 43698.66 | 0 | 21470.15 | 0.225552 |
| Irr_00 | 0 | 9884.817 | 8778.125 | 38671.15 | 0 | 18662.94 | 0.226994 |
| Irr_06 | 0 | 6801.509 | 8408.178 | 36004.46 | 0 | 15209.69 | 0.233532 |

reduce these if we think supplemental usually supports ET.

$CF_{div} = 0.8(1.54) - 0.54 = 0.69$




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW008
(Blaine County Canal
Company, Little Lost)
These should be IESW008
IESW053
Jumpoff
Irr_80_mixed_sw_part_20100
Fields
Irr_80_sw_only_20100310.shp
Fields
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_008_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

IESW008

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 5 | 3 | 0 | 0 |
| 0-<0.1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 0 |
| 0.4-<0.5 | 0 | 1 | 0 | 3 | 3 | 3 | 0 | 0 |
| 0.5-<0.6 | 0 | 0 | 1 | 8 | 8 | 7 | 0 | 0 |
| 0.6-<0.7 | 1 | 0 | 1 | 4 | 4 | 5 | 0 | 0 |
| 0.7-<0.8 | 1 | 3 | 2 | 2 | 2 | 4 | 0 | 0 |
| 0.8-<0.9 | 3 | 3 | 14 | 1 | 1 | 1 | 0 | 0 |
| 0.9-<1.0 | 15 | 22 | 10 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

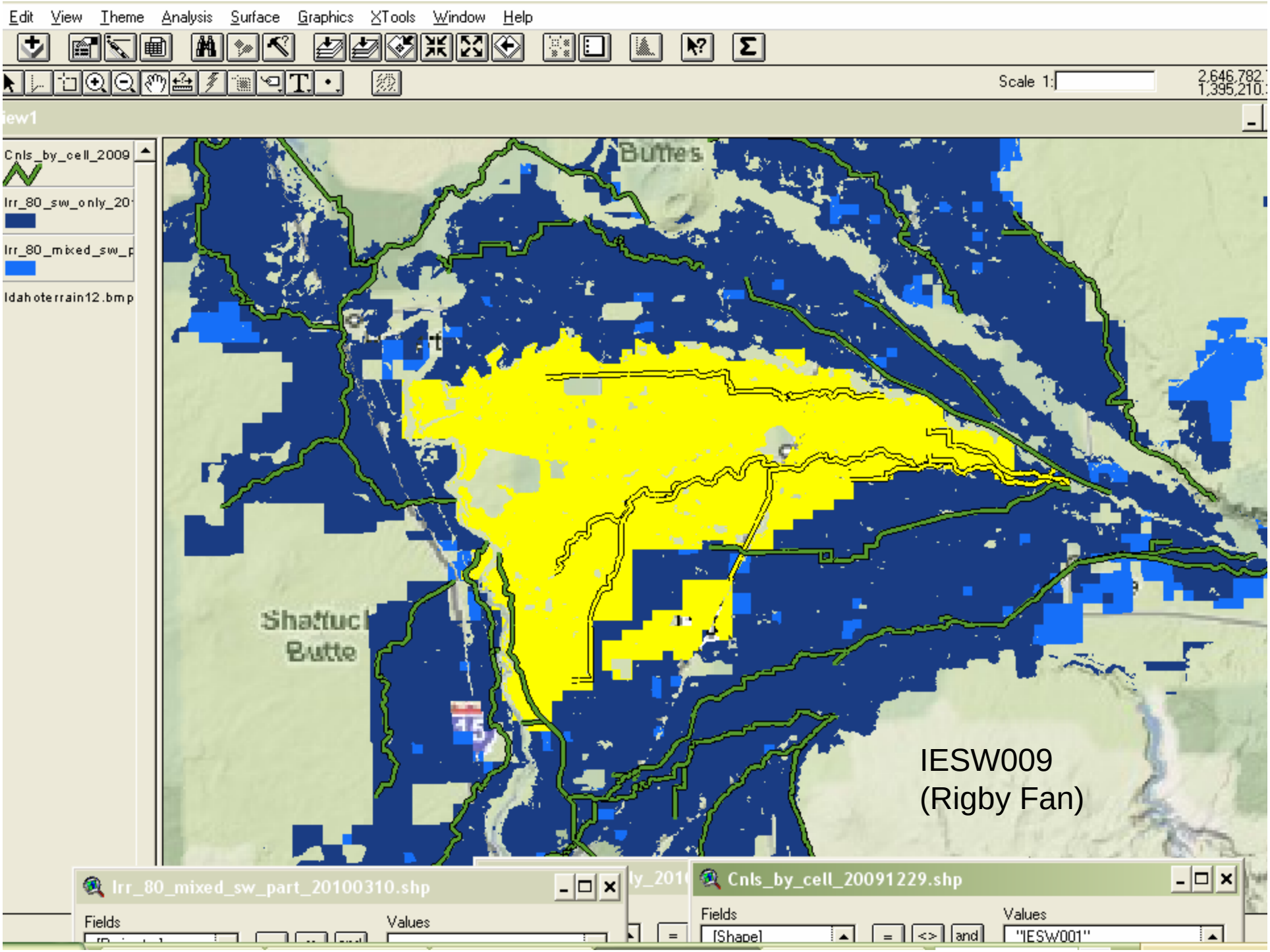
temporal mis-match

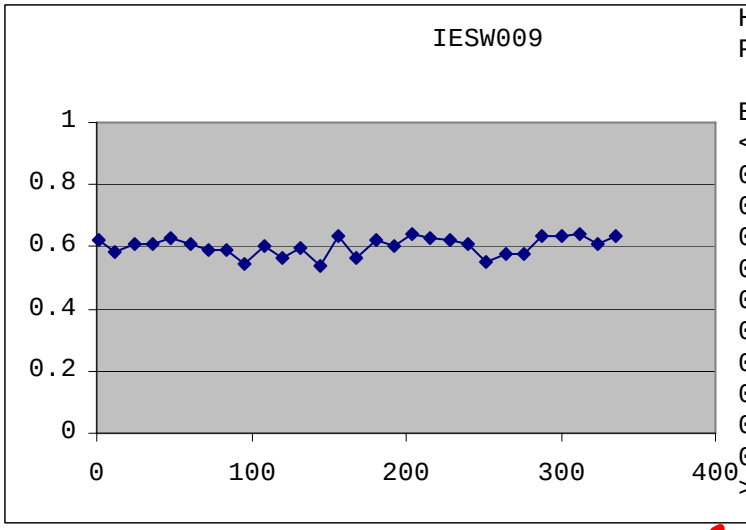
BEFORE RED
Entity IESW008

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 822.449 | 148.333 | 3615.124 | 0 | 970.782 | 4.10E-02 |
| Irr_86 | 0 | 864.65 | 146.322 | 3521.135 | 0 | 1010.972 | 4.16E-02 |
| Irr_92 | 0 | 975.83 | 159.292 | 3776.947 | 0 | 1135.122 | 4.22E-02 |
| Irr_00 | 0 | 739.751 | 150.641 | 3659.486 | 0 | 890.392 | 4.12E-02 |
| Irr_06 | 0 | 642.103 | 138.7 | 3319.168 | 0 | 780.803 | 4.18E-02 |

.04 = very low — Should it just be zero?

$$CF_{DIV} = (1.54)(0.75) - 0.54 = .62$$


Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Buttes
Shattuc
Butte
IESW009
(Rigby Fan)
Irr_80_mixed_sw_part_20100310.shp
Fields
Values
Cnls_by_cell_20091229.shp
Fields
[Shape]
and
Values
"IESW001"



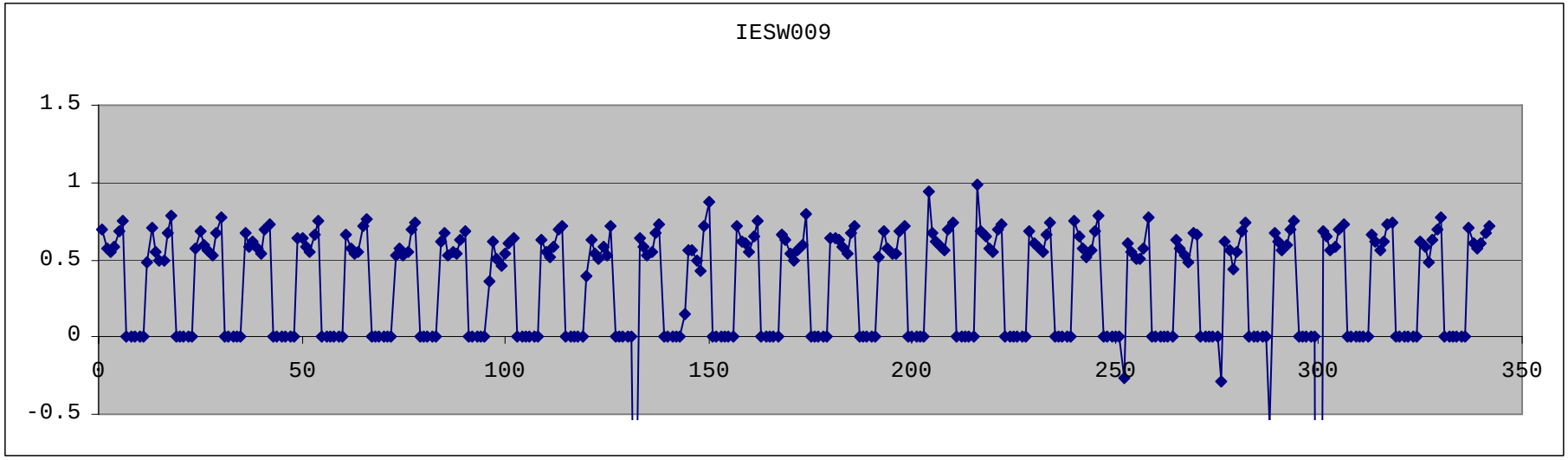

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_009_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

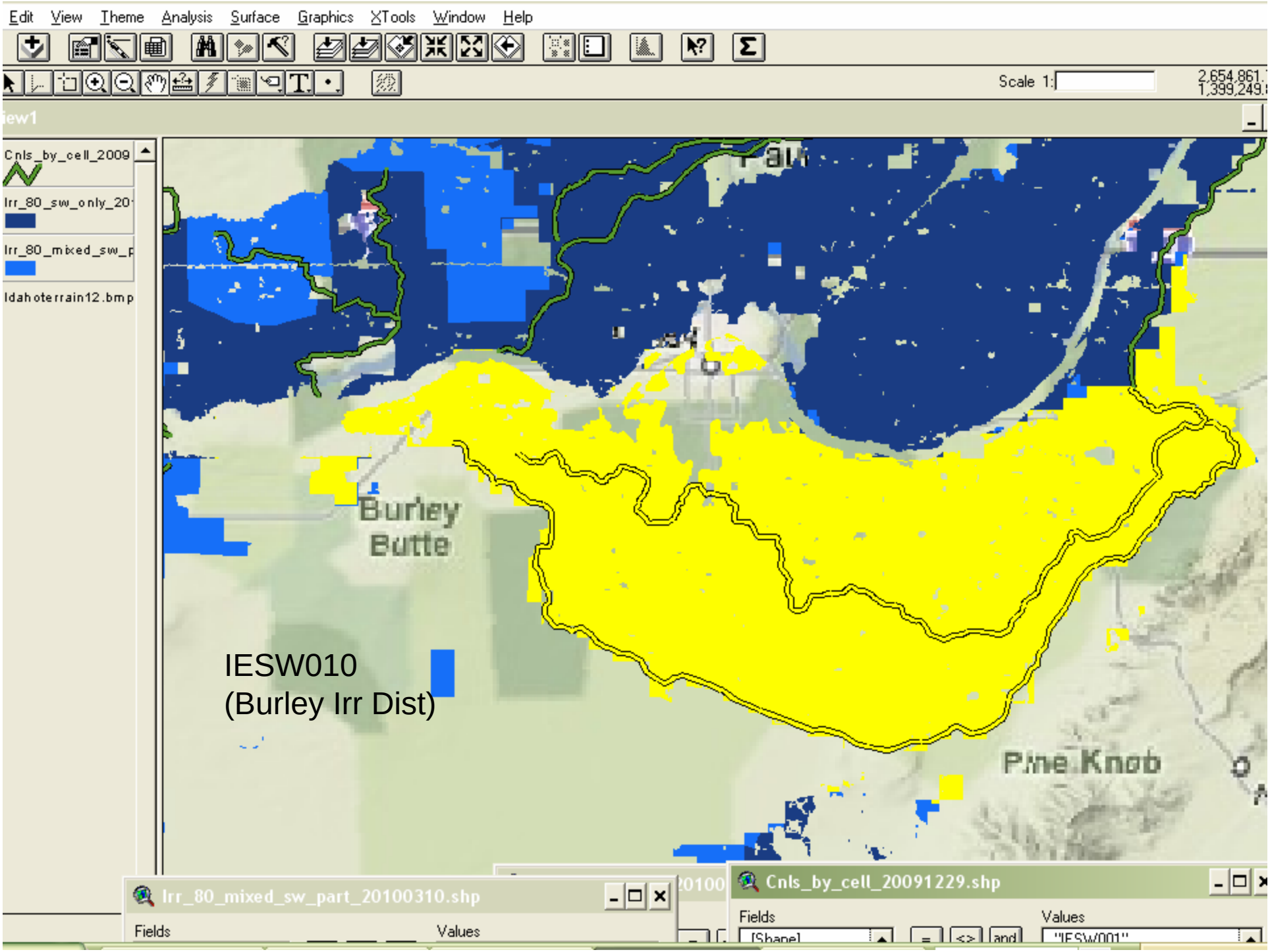
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 1 | 0 | 0 | 6 | 3 | 0 | 0 |
| 0.5-<0.6 | 2 | 3 | 18 | 22 | 23 | 3 | 0 |
| 0.6-<0.7 | 4 | 23 | 11 | 1 | 3 | 23 | 3 |
| 0.7-<0.8 | 1 | 3 | 0 | 0 | 0 | 3 | 25 |
| 0.8-<0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

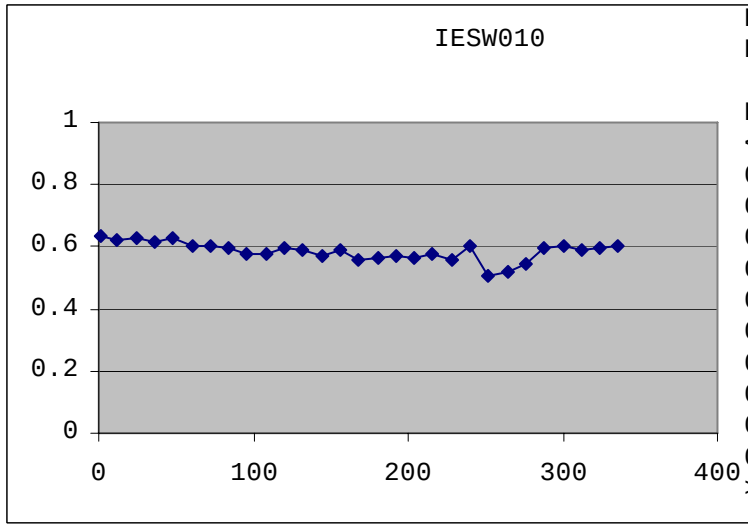
$CF_{DIV} = 1.54(0.6) - 0.54 = 0.38$ ✓

BEFORE RED
Entity IESW009

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 37690.93 | 463.661 | 1585.226 | 0 | 38154.59 | 0.292489 |
| Irr_86 | 0 | 33739.76 | 433.467 | 1533.452 | 0 | 34173.23 | 0.282674 |
| Irr_92 | 0 | 35180.49 | 431.335 | 1531.644 | 0 | 35611.82 | 0.281616 |
| Irr_00 | 0 | 32321.07 | 389.232 | 1412.741 | 0 | 32710.3 | 0.275515 |
| Irr_06 | 0 | 24645.64 | 287.002 | 1064.623 | 0 | 24932.64 | 0.269581 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Burley Butte
Pine Knob
IESW010
(Burley Irr Dist)
Irr_80_mixed_sw_part_20100310.shp
Fields
Values
Cnls_by_cell_20091229.shp
Fields
Values
[Shape]
and
"IESW001"




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_010_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

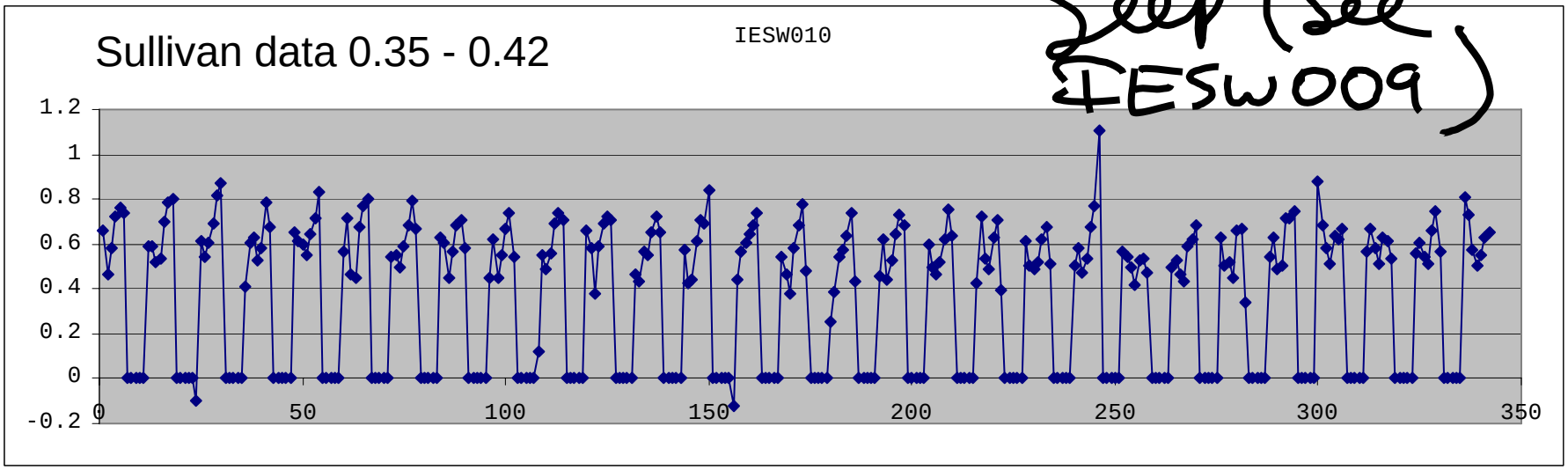
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 0 | 1 | 2 | 0 | 0 | 0 | 2 |
| 0.4-<0.5 | 6 | 5 | 14 | 5 | 0 | 0 | 3 |
| 0.5-<0.6 | 10 | 9 | 11 | 21 | 4 | 1 | 5 |
| 0.6-<0.7 | 6 | 11 | 2 | 3 | 22 | 8 | 8 |
| 0.7-<0.8 | 0 | 3 | 0 | 0 | 3 | 19 | 5 |
| 0.8-<0.9 | 2 | 0 | 0 | 0 | 0 | 1 | 5 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

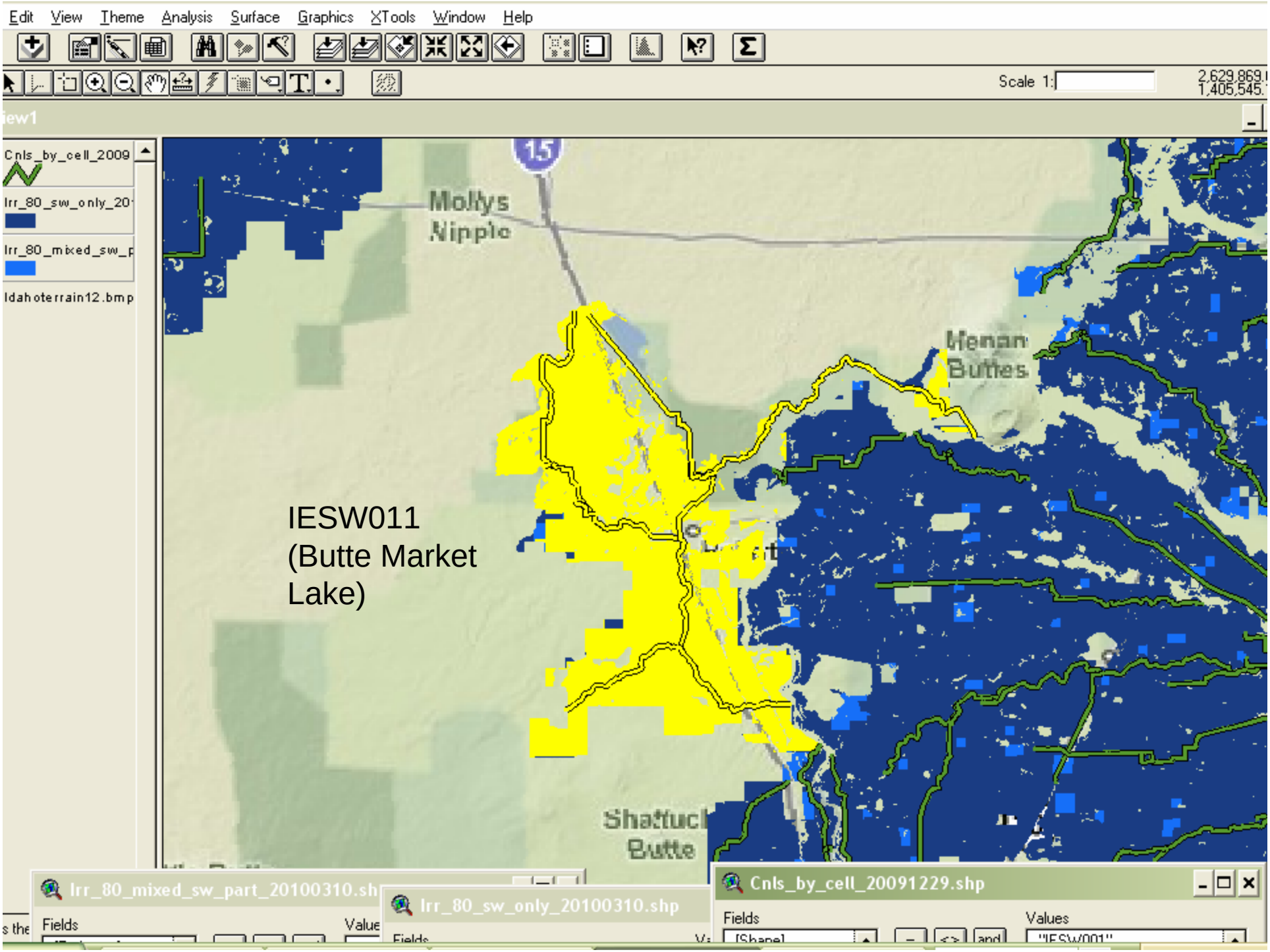
lower residual in summer is reasonable

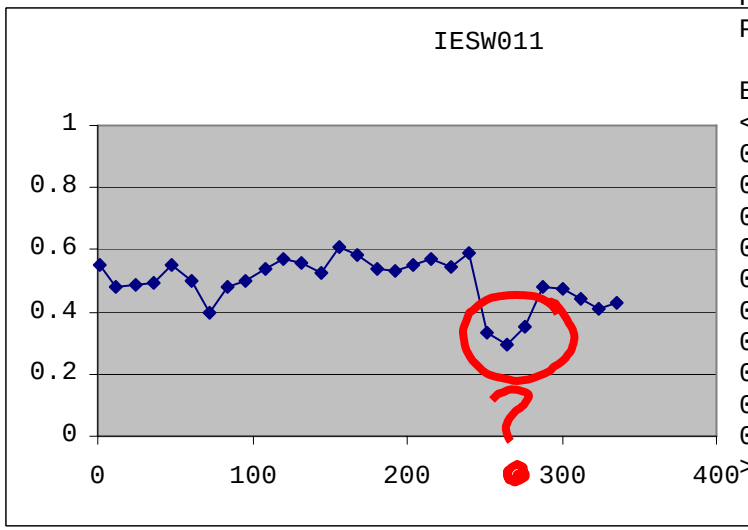
BEFORE RED
Entity IESW010

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 45468.32 | 1698.547 | 4769.873 | 0 | 47166.87 | 0.356099 |
| Irr_86 | 0 | 43242.84 | 1608.001 | 4619.732 | 0 | 44850.84 | 0.348072 |
| Irr_92 | 0 | 43853.79 | 1605.483 | 4559.866 | 0 | 45459.27 | 0.35209 |
| Irr_00 | 0 | 43964.04 | 1651.234 | 4658.45 | 0 | 45615.28 | 0.35446 |
| Irr_06 | 0 | 38890.07 | 1481.477 | 4061.631 | 0 | 40371.54 | 0.364749 |

≈ ~~20~~ 38% end Seep (see IESW009)




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
15
Mollys Nipple
Menan Buttes
Shattuck Butte
IESW011 (Butte Market Lake)
Irr_80_mixed_sw_part_20100310.sh
Irr_80_sw_only_20100310.shp
Cnls_by_cell_20091229.shp
Fields
Values
Value
[Shape]
and
"IESW001"




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_011_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

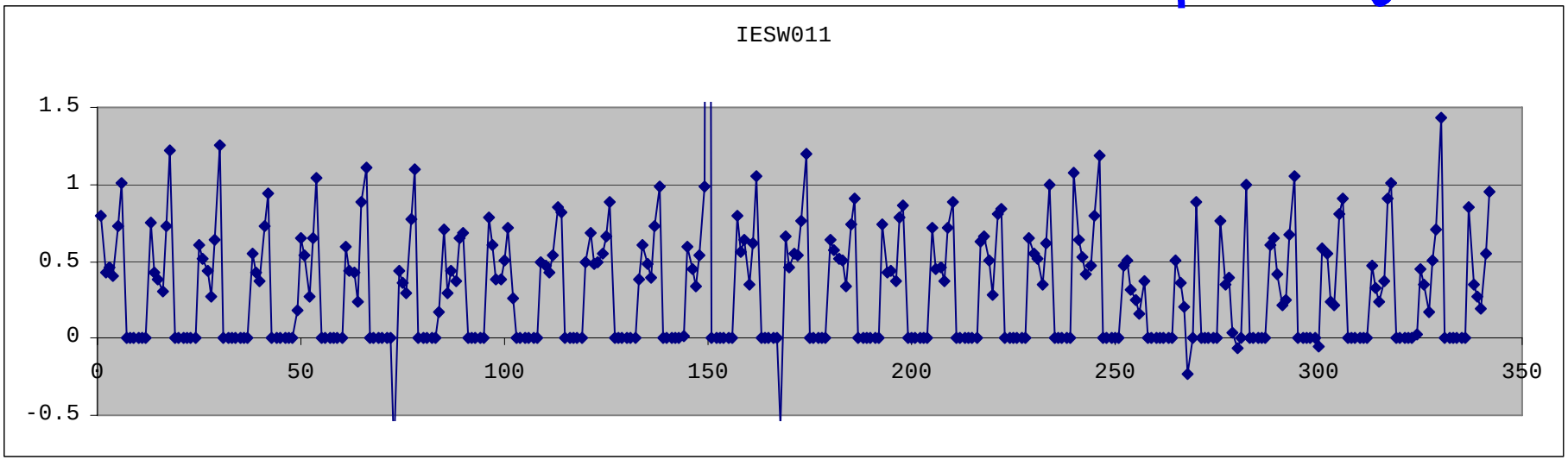
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 2 | 1 | 0 | 0 | 2 | 0 | 0 |
| 0-<0.1 | 2 | 1 | 0 | 1 | 0 | 0 | 0 |
| 0.1-<0.2 | 1 | 1 | 0 | 2 | 2 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 1 | 5 | 7 | 0 | 1 |
| 0.3-<0.4 | 0 | 2 | 7 | 4 | 10 | 1 | 0 |
| 0.4-<0.5 | 2 | 3 | 11 | 11 | 2 | 0 | 0 |
| 0.5-<0.6 | 0 | 6 | 7 | 5 | 6 | 1 | 0 |
| 0.6-<0.7 | 2 | 8 | 3 | 1 | 0 | 7 | 1 |
| 0.7-<0.8 | 2 | 5 | 0 | 0 | 0 | 12 | 0 |
| 0.8-<0.9 | 0 | 2 | 0 | 0 | 0 | 4 | 6 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 2 | 7 |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 13 |

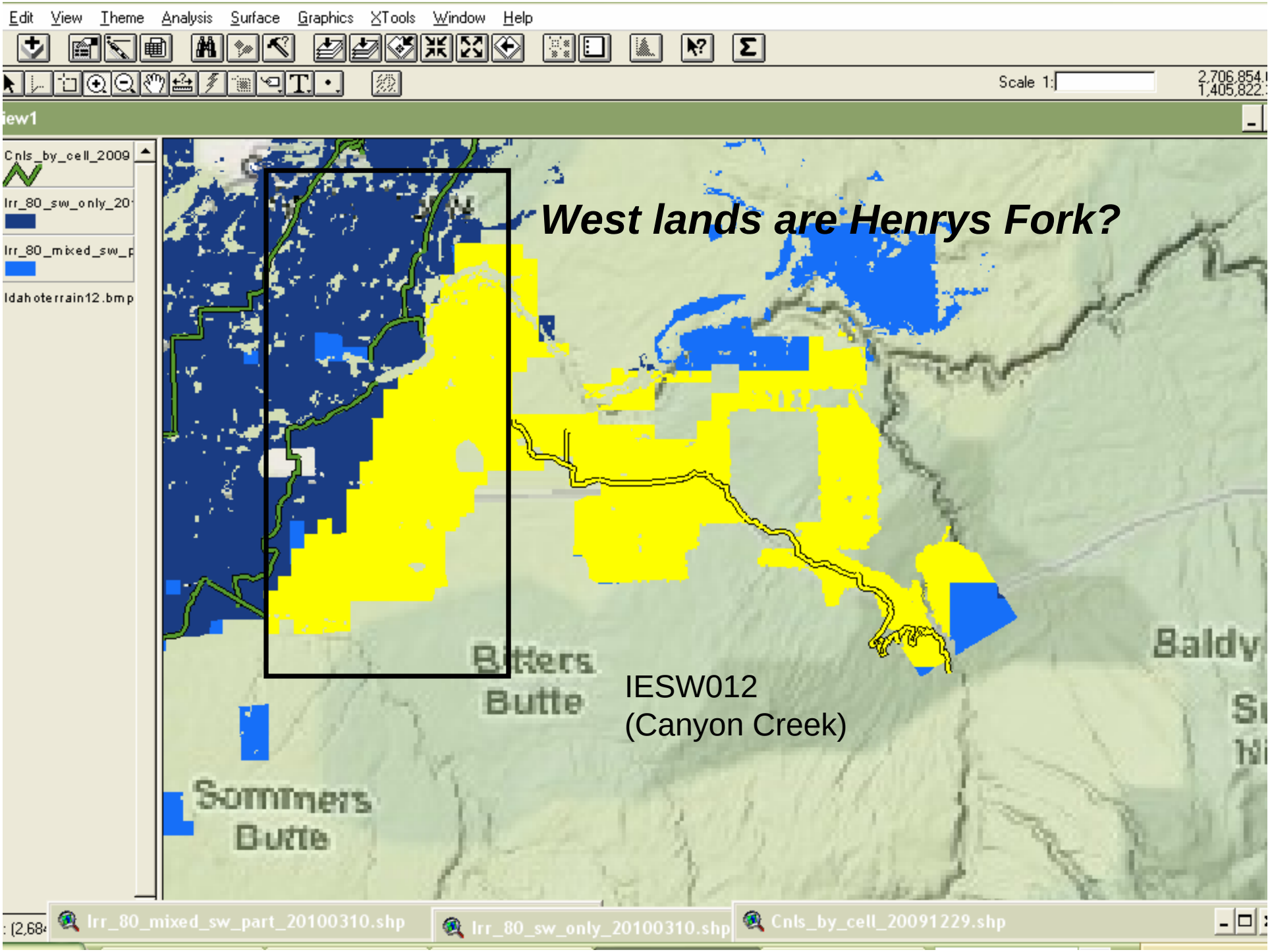
$CF_{DIV} = 1.54(0.4) - 0.54 = 0.08$ Low?

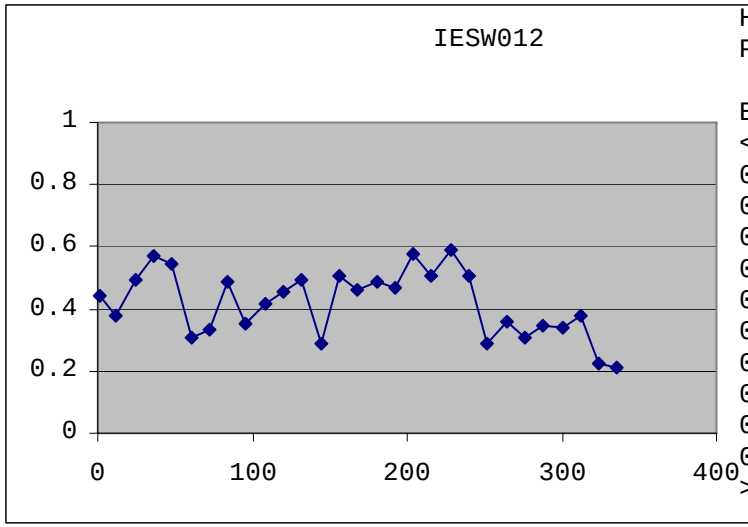
BEFORE RED
Entity IESW011

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 24713.37 | 551.248 | 1189.993 | 0 | 25264.61 | 0.463236 |
| Irr_86 | 0 | 21811.27 | 467.542 | 995.773 | 0 | 22278.82 | 0.469527 |
| Irr_92 | 0 | 21502.19 | 543.856 | 1182.927 | 0 | 22046.05 | 0.459754 |
| Irr_00 | 0 | 19928.35 | 497.78 | 1074.34 | 0 | 20426.13 | 0.463336 |
| Irr_06 | 0 | 18386.23 | 484.894 | 1054.531 | 0 | 18871.12 | 0.45982 |

reduce these?




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
West lands are Henrys Fork?
Bitters Butte
IESW012
(Canyon Creek)
Sommers Butte
Baldy
Irr_80_mixed_sw_part_20100310.shp
Irr_80_sw_only_20100310.shp
Cnls_by_cell_20091229.shp



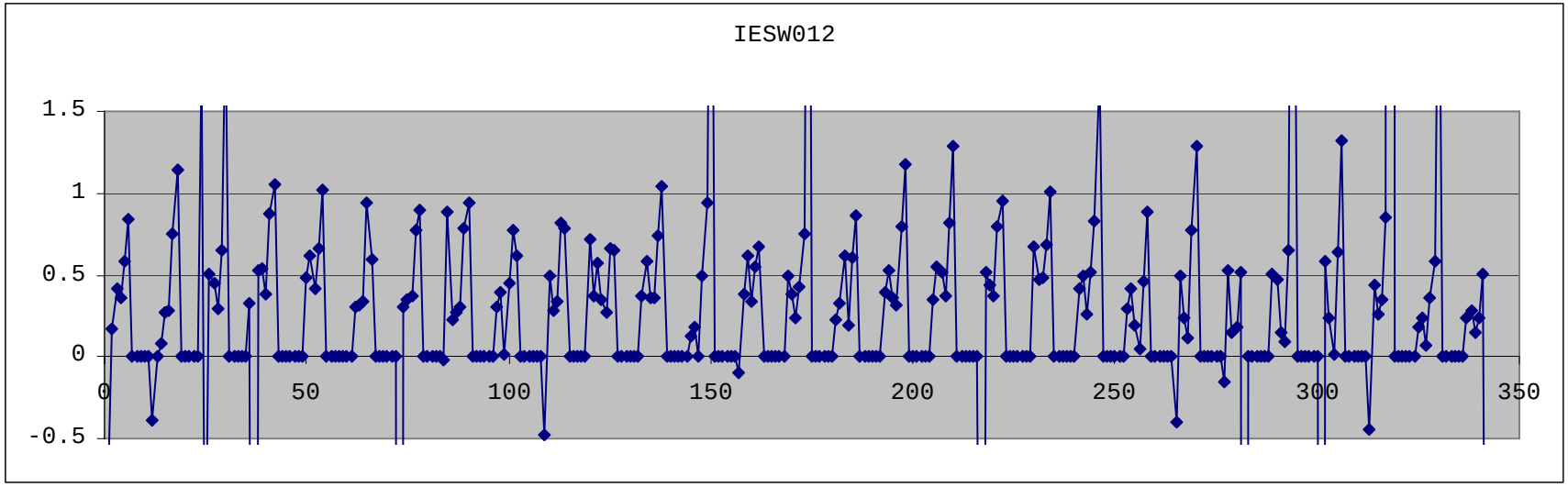

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_012_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

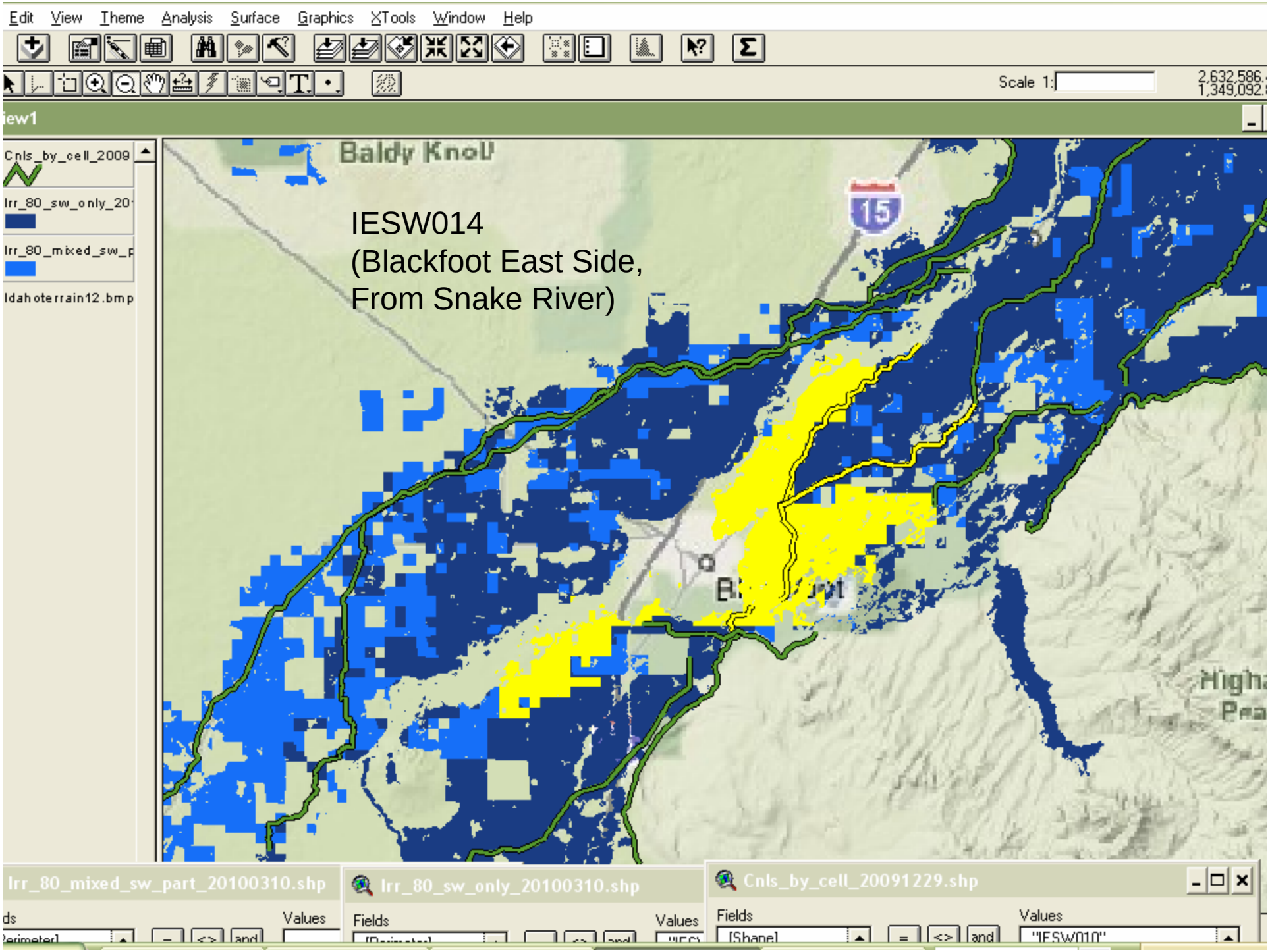
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 2 | 11 | 0 | 0 | 0 | 0 | 2 |
| 0-<0.1 | 0 | 0 | 1 | 3 | 3 | 0 | 0 |
| 0.1-<0.2 | 0 | 2 | 2 | 4 | 3 | 0 | 0 |
| 0.2-<0.3 | 0 | 3 | 4 | 8 | 4 | 0 | 0 |
| 0.3-<0.4 | 1 | 5 | 5 | 5 | 13 | 0 | 0 |
| 0.4-<0.5 | 0 | 2 | 7 | 4 | 5 | 1 | 0 |
| 0.5-<0.6 | 0 | 1 | 9 | 2 | 1 | 5 | 1 |
| 0.6-<0.7 | 0 | 0 | 1 | 3 | 0 | 7 | 3 |
| 0.7-<0.8 | 1 | 0 | 0 | 0 | 0 | 9 | 1 |
| 0.8-<0.9 | 0 | 1 | 0 | 0 | 0 | 5 | 4 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 16 |

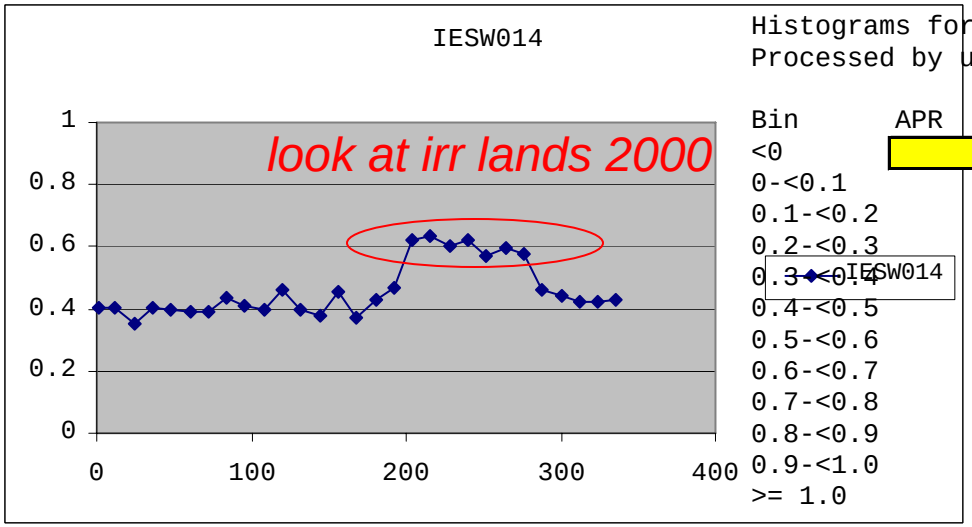
BEFORE RED
Entity IESW012

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 7831.735 | 620.616 | 11060.73 | 0 | 8452.351 | 5.61E-02 |
| Irr_86 | 0 | 8521.146 | 634.565 | 10801.43 | 0 | 9155.711 | 5.87E-02 |
| Irr_92 | 0 | 8426.665 | 648.948 | 11198.48 | 0 | 9075.613 | 5.79E-02 |
| Irr_00 | 0 | 9082.544 | 658.328 | 11268.86 | 0 | 9740.872 | 5.84E-02 |
| Irr_06 | 0 | 9185.622 | 663.603 | 11233.92 | 0 | 9849.225 | 5.91E-02 |

CFdiv ~ 0.08 (see IESW011). This is probably OK; system is mostly piped. Reduce Mix Frac to near zero; Lots of supplemental GW used here.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Baldy Knoll
15
IESW014
(Blackfoot East Side,
From Snake River)
Irr_80_mixed_sw_part_20100310.shp
Irr_80_sw_only_20100310.shp
Cnls_by_cell_20091229.shp
Fields
Values
[Shape]
"IESW010"
and



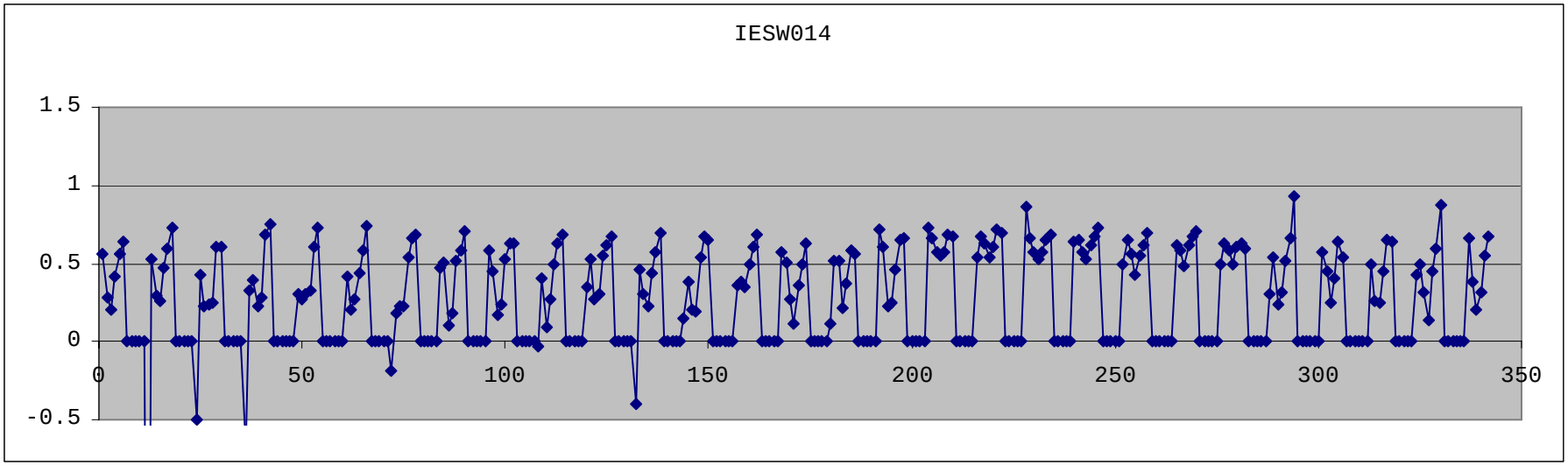

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_014_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

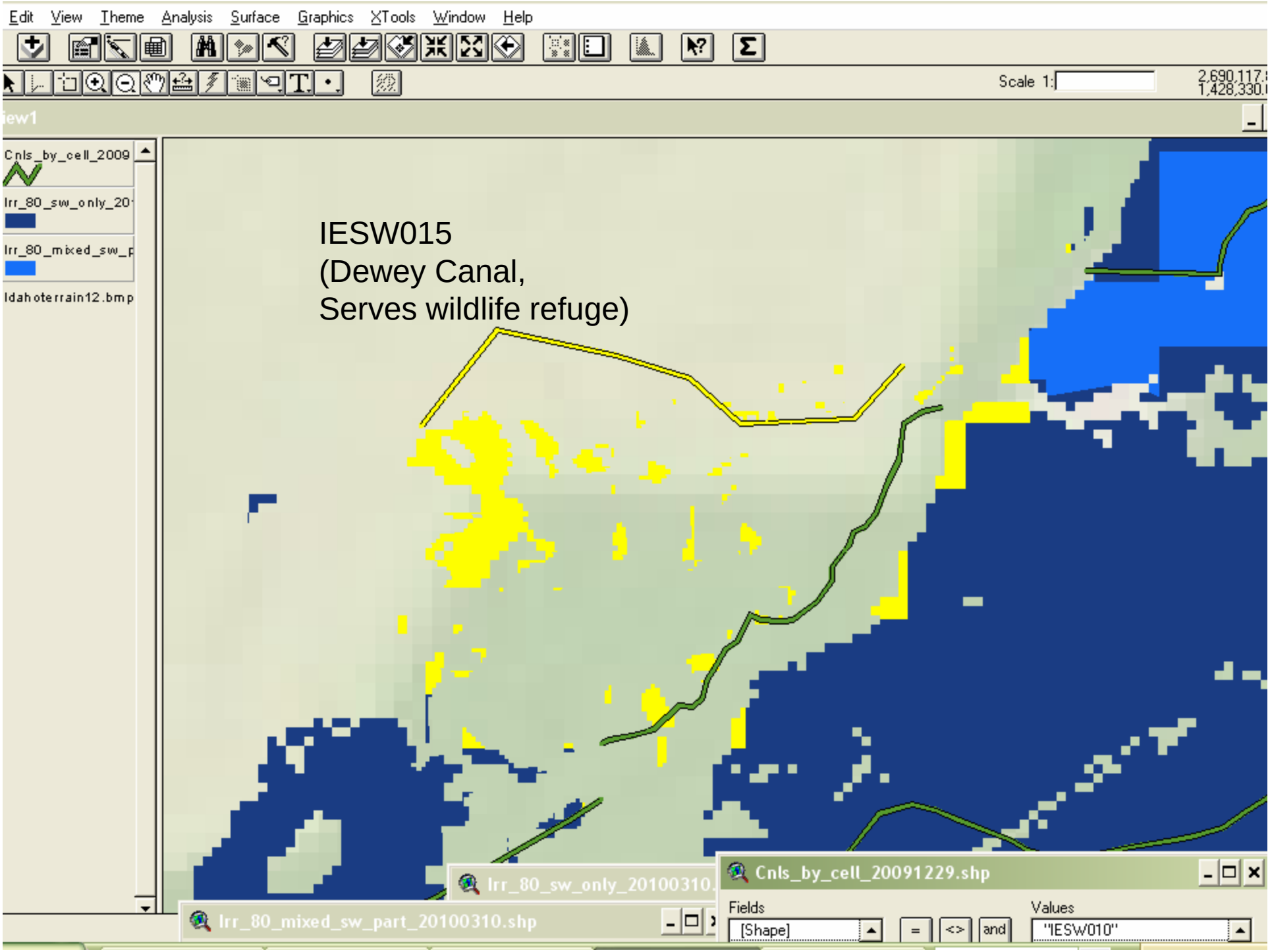
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 2 | 1 | 2 | 5 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 12 | 13 | 2 | 0 | 0 |
| 0.3-<0.4 | 2 | 4 | 5 | 4 | 4 | 0 | 0 |
| 0.4-<0.5 | 4 | 7 | 1 | 3 | 10 | 1 | 0 |
| 0.5-<0.6 | 3 | 8 | 7 | 4 | 9 | 8 | 3 |
| 0.6-<0.7 | 1 | 9 | 1 | 0 | 4 | 19 | 17 |
| 0.7-<0.8 | 2 | 0 | 0 | 0 | 0 | 1 | 7 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

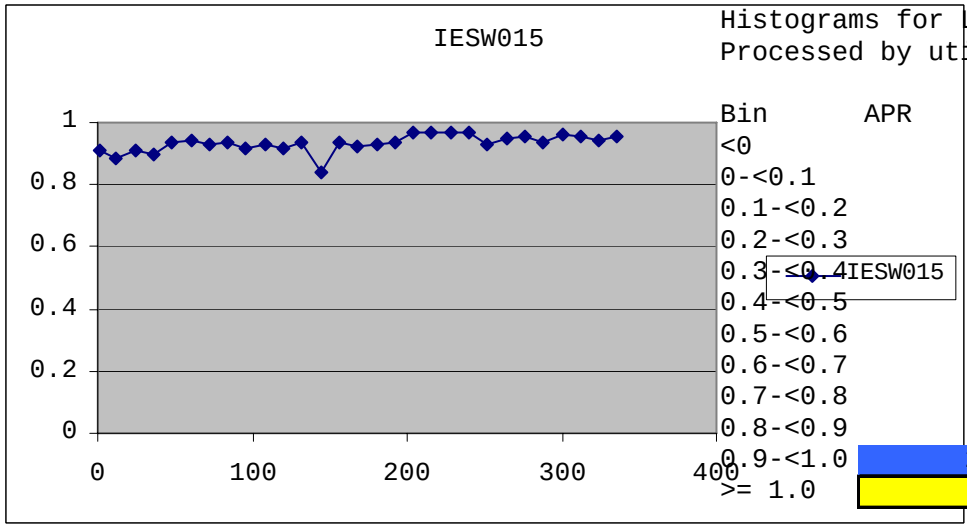
BEFORE RED
Entity IESW014

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 9015.697 | 153.615 | 2585.333 | 0 | 9169.312 | 0.059418 |
| Irr_86 | 0 | 8074.611 | 141.526 | 2332.488 | 0 | 8216.137 | 6.07E-02 |
| Irr_92 | 0 | 8420.519 | 151.239 | 2442.009 | 0 | 8571.758 | 6.19E-02 |
| Irr_00 | 0 | 3008.221 | 152.967 | 2483.464 | 0 | 3161.188 | 6.16E-02 |
| Irr_06 | 0 | 6700.39 | 136.687 | 2226.959 | 0 | 6837.077 | 6.14E-02 |

1) CFdiv ~ 0.08
2) Reduce MixFrac
3) Investigate acreage Irr 00.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW015
(Dewey Canal,
Serves wildlife refuge)
Irr_80_sw_only_20100310.
Irr_80_mixed_sw_part_20100310.shp
Cnls_by_cell_20091229.shp
Fields
[Shape]
=
<>
and
Values
"IESW010"




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_015_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

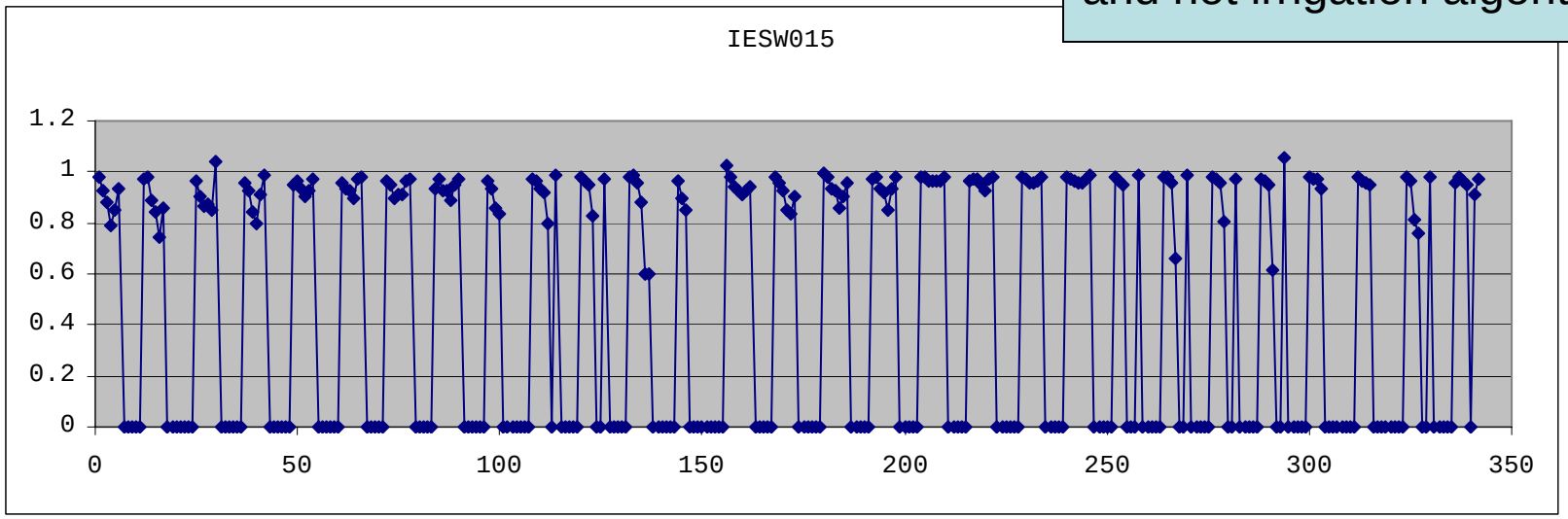
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT | |
|---|---|---|---|---|---|---|---|---|
| <0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.5-<0.6 | | 0 | 0 | 0 | 0 | 1 | 1 | 0 |
| 0.6-<0.7 | | 0 | 0 | 0 | 2 | 0 | 0 | 0 |
| 0.7-<0.8 | | 0 | 0 | 0 | 1 | 4 | 0 | 0 |
| 0.8-<0.9 | | 0 | 1 | 4 | 9 | 7 | 3 | 0 |
| 0.9-<1.0 | 21 | 28 | 25 | 15 | 7 | 14 | 20 | |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 2 | |

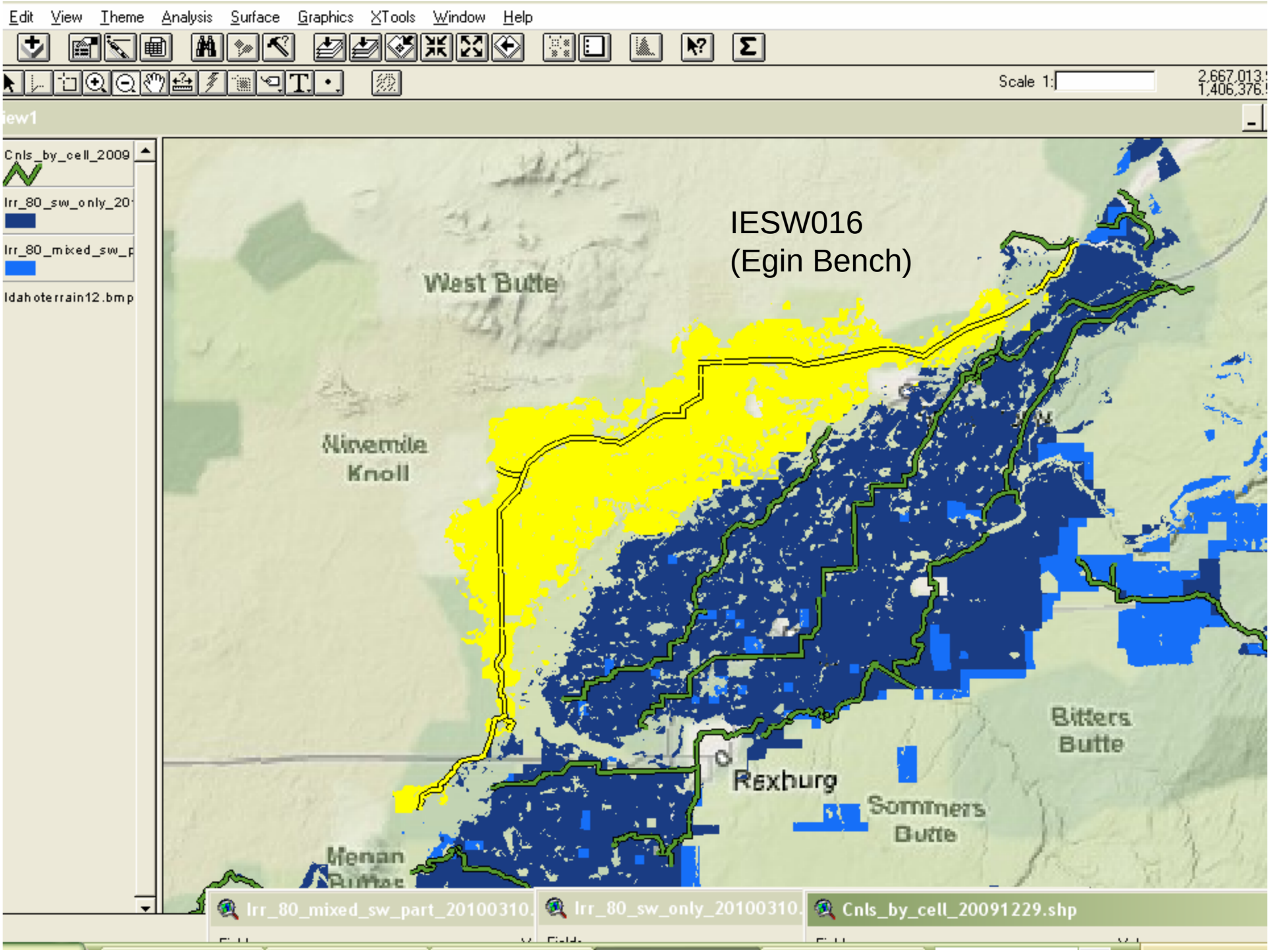
$$CF_{div} = 1.54\ (0.90) - 0.54 \sim 0.85$$

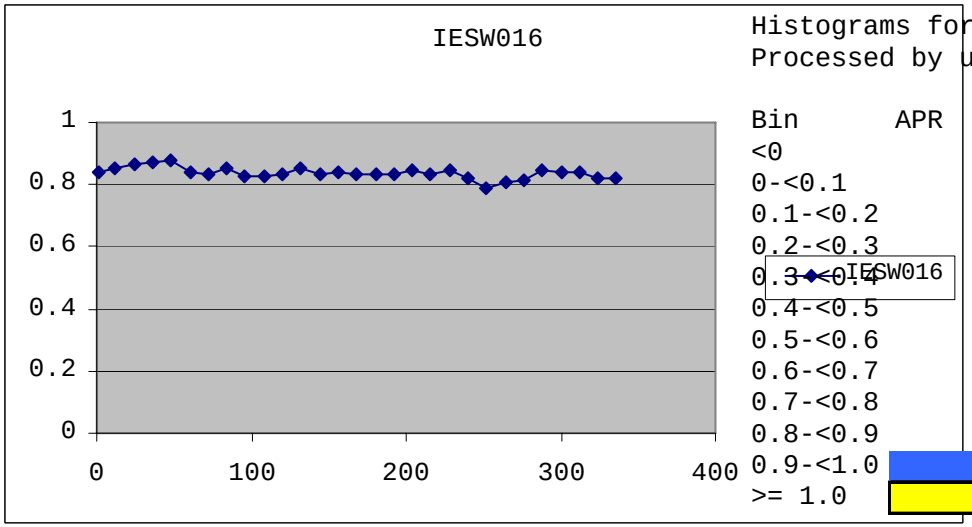
BEFORE RED
Entity IESW015

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 202.988 | 10.291 | 11.435 | 0 | 213.279 | 0.899956 |
| Irr_86 | 0 | 124.27 | 12.89 | 14.323 | 0 | 137.16 | 0.899951 |
| Irr_92 | 0 | 176.573 | 10.32 | 11.496 | 0 | 186.893 | 0.897704 |
| Irr_00 | 0 | 38.926 | 9.256 | 10.285 | 0 | 48.182 | 0.899951 |
| Irr_06 | 0 | 45.908 | 16.161 | 18.042 | 0 | 62.069 | 0.895743 |

This seems very high but remember this is a wildlife refuge. In ESPAM3 consider treating this with Wetlands & Perched Seep and not irrigation algorithms.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW016
(Egin Bench)
West Butte
Ninemile
Knoll
Rexburg
Sommers
Butte
Bitters
Butte
Menan
Irr_80_mixed_sw_part_20100310.
Irr_80_sw_only_20100310.
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_016_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.5-<0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.6-<0.7 | 0 | 0 | 0 | 6 | 4 | 0 | 0 |
| 0.7-<0.8 | 0 | 0 | 11 | 21 | 25 | 2 | 0 |
| 0.8-<0.9 | 0 | 7 | 17 | 2 | 0 | 19 | 0 |
| 0.9-<1.0 | 27 | 21 | 1 | 0 | 0 | 8 | 17 |
| >= 1.0 | 1 | 1 | 0 | 0 | 0 | 0 | 12 |

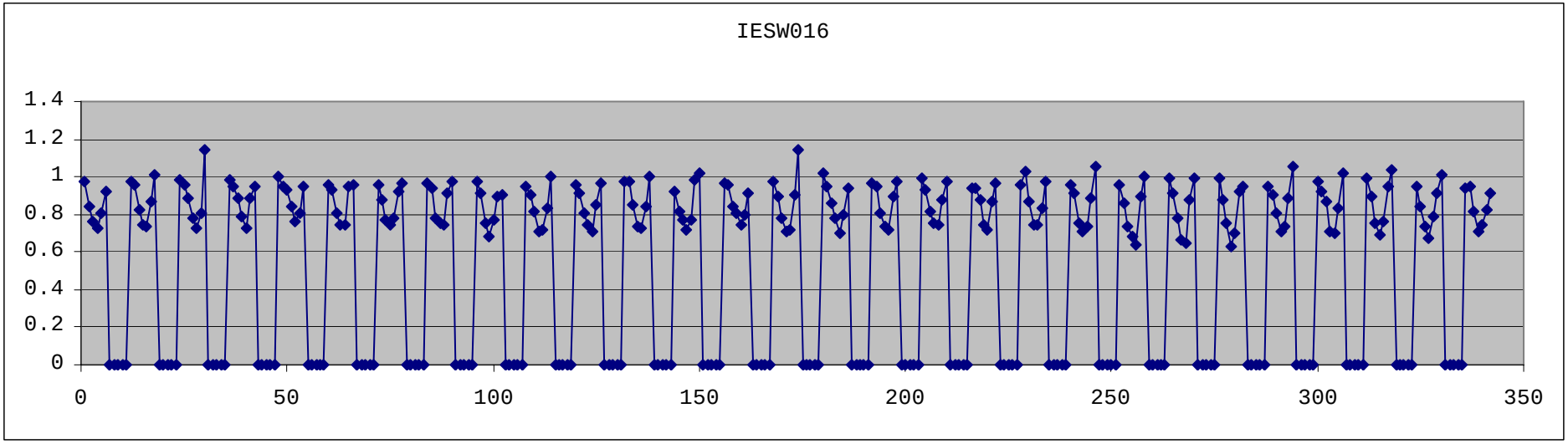
*cool wet spring?*

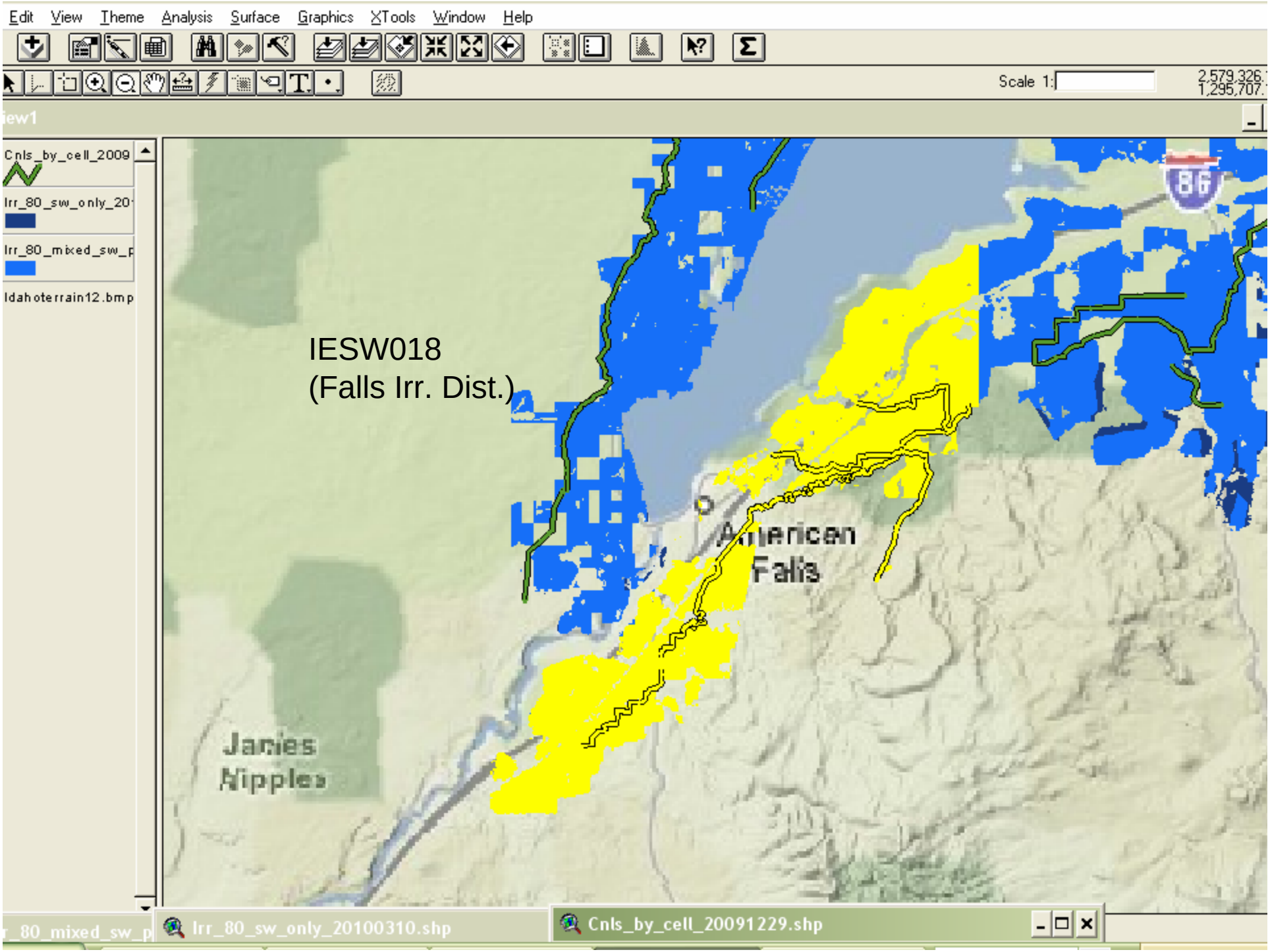
CFdiv = 1.54 * (0.8) - 0.54 ~ 0.69

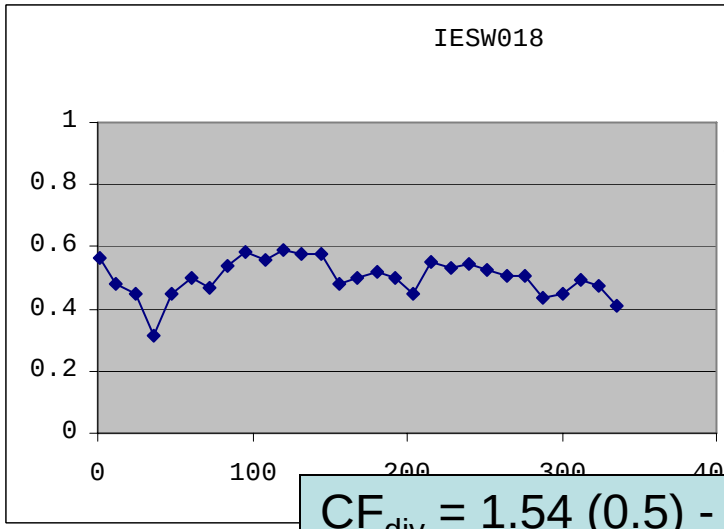
BEFORE RED
Entity IESW016

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 25711.85 | 1228.358 | 2601.794 | 0 | 26940.21 | 0.47212 |
| Irr_86 | 0 | 25497.83 | 1021.965 | 2247.438 | 0 | 26519.8 | 0.454724 |
| Irr_92 | 0 | 25995.15 | 1143.343 | 2539.704 | 0 | 27138.5 | 0.450188 |
| Irr_00 | 0 | 26651.46 | 1121.678 | 2516.93 | 0 | 27773.14 | 0.445653 |
| Irr_06 | 0 | 22129.81 | 1032.324 | 2317.3 | 0 | 23162.13 | 0.445486 |

This seems a little high, though ditch loss is large here. Consider reducing SW on mixed-source lands.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW018
(Falls Irr. Dist.)
American
Falls
James
Nipples
86
Irr_80_sw_only_20100310.shp
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_018_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 7 | 6 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 2 | 2 | 1 | 1 | 0 | 0 |
| 0.3-<0.4 | 2 | 1 | 4 | 8 | 1 | 0 | 0 |
| 0.4-<0.5 | 4 | 6 | 15 | 10 | 4 | 0 | 2 |
| 0.5-<0.6 | 4 | 8 | 7 | 9 | 7 | 4 | 2 |
| 0.6-<0.7 | 0 | 4 | 1 | 1 | 7 | 5 | 3 |
| 0.7-<0.8 | 0 | 2 | 0 | 0 | 6 | 8 | 2 |
| 0.8-<0.9 | 0 | 0 | 0 | 0 | 2 | 6 | 1 |
| 0.9-<1.0 | 0 | 0 | | | | | 5 |
| | | 0 | | | | | 9 |

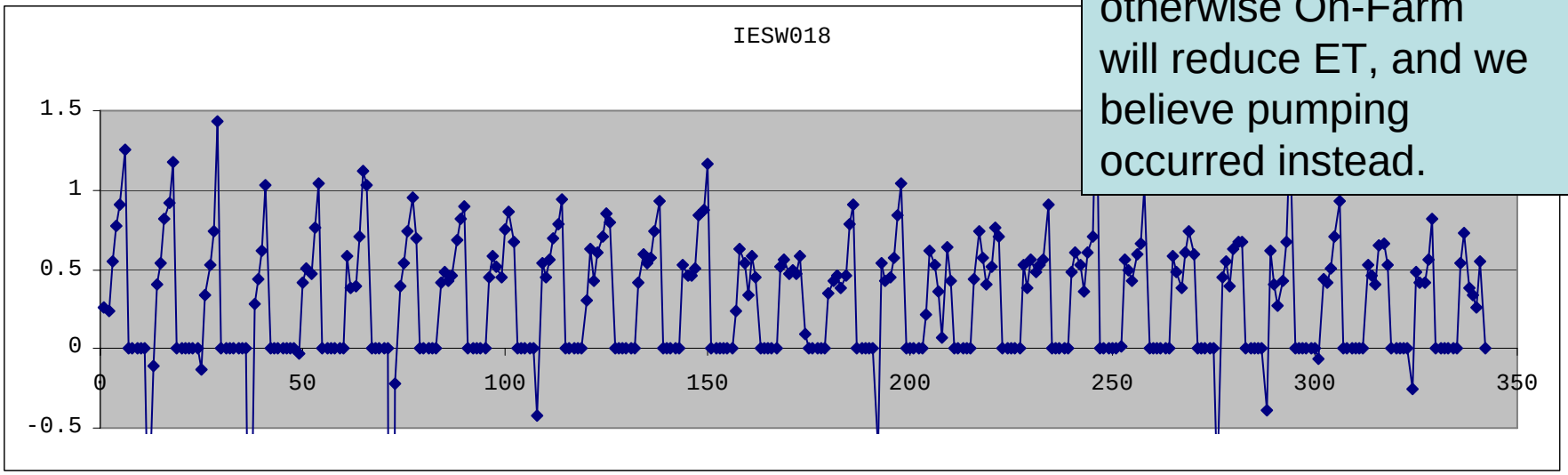
IESW018

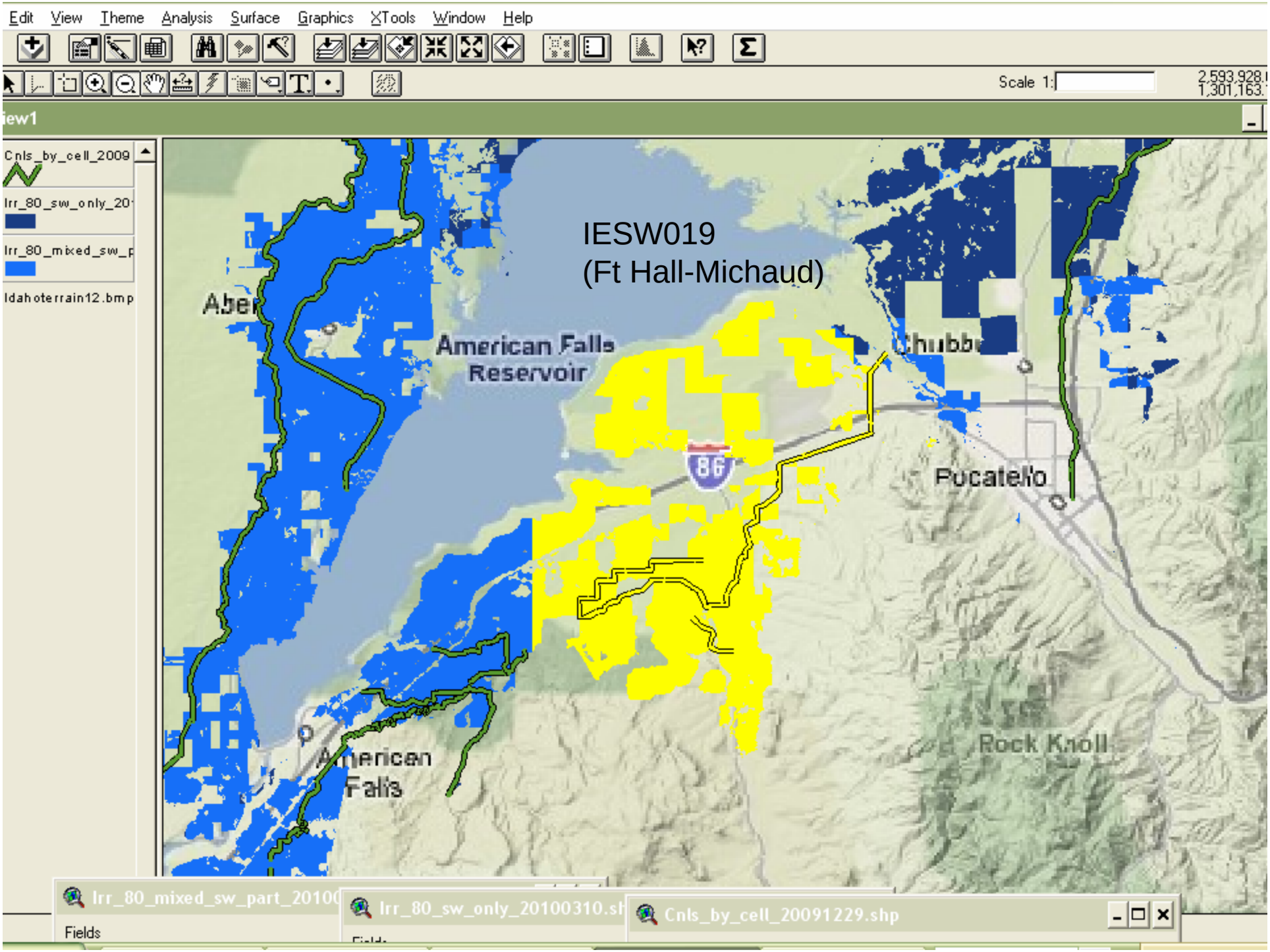
$CF_{div}$ = 1.54 (0.5) - 0.54 = 0.23
$CF_{div}$ = 1.54 (0.4) - 0.54 = 0.08

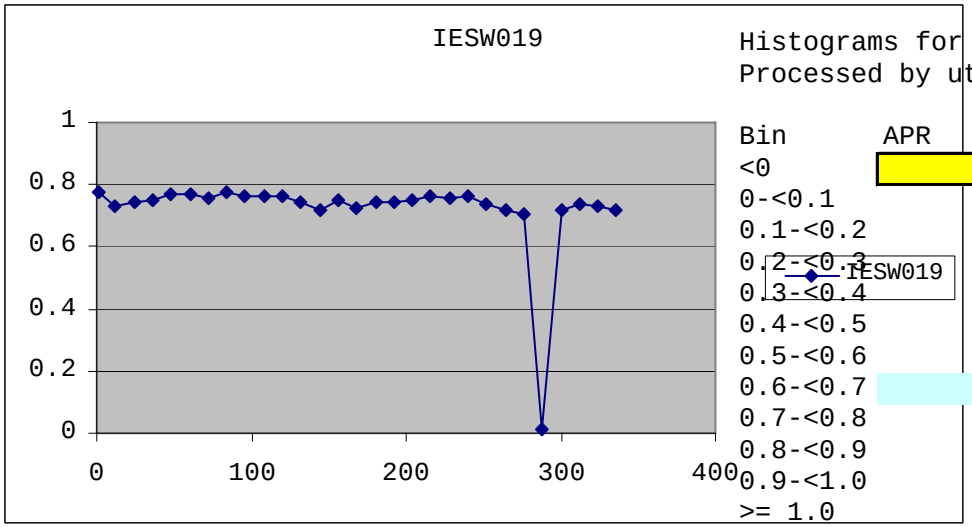
BEFORE RED
Entity IESW018

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 32.537 | 7491.591 | 17791.98 | 0 | 7524.128 | 0.421066 |
| Irr_86 | 0 | 11.367 | 5860.733 | 14142.85 | 0 | 5872.1 | 0.414396 |
| Irr_92 | 0 | 2.351 | 6425.807 | 15279.37 | 0 | 6428.158 | 0.420555 |
| Irr_00 | 0 | 6.347 | 6478.771 | 15346.5 | 0 | 6485.118 | 0.422166 |
| Irr_06 | 0 | 4.957 | 6364.247 | 14996.39 | 0 | 6369.204 | 0.424385 |

The one year w/ low residual fraction may represent a year when more GW was pumped. Make MixFrac low enough to accommodate that year because otherwise On-Farm will reduce ET, and we believe pumping occurred instead.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW019
(Ft Hall-Michaud)
American Falls
Reservoir
86
Pocatello
Rock Knoll
American
Falls
Irr_80_mixed_sw_part_2010
Fields
Irr_80_sw_only_20100310.sh
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_019_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

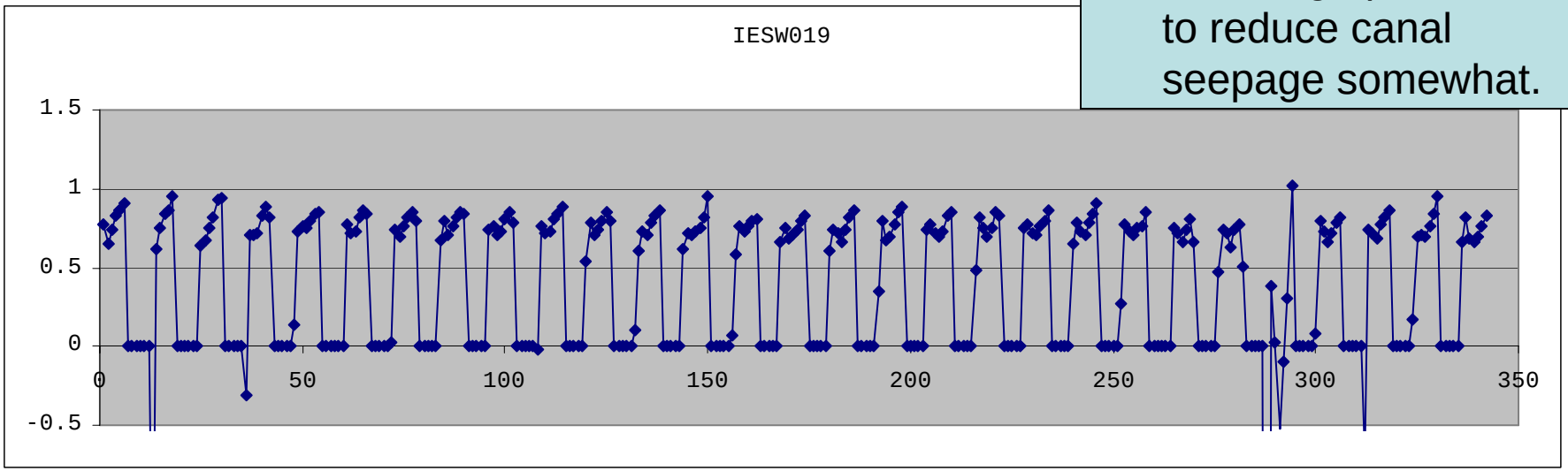
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 4 | 1 | 0 | 1 | 1 | 0 | 0 |
| 0-<0.1 | 3 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0.3-<0.4 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.5-<0.6 | 1 | 1 | 0 | 0 | 0 | 0 | 1 |
| 0.6-<0.7 | 6 | 3 | 7 | 10 | 1 | 0 | 1 |
| 0.7-<0.8 | 3 | 21 | 21 | 18 | 18 | 5 | 3 |
| 0.8-<0.9 | 0 | 2 | 0 | 0 | 9 | 22 | 17 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 1 | 6 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

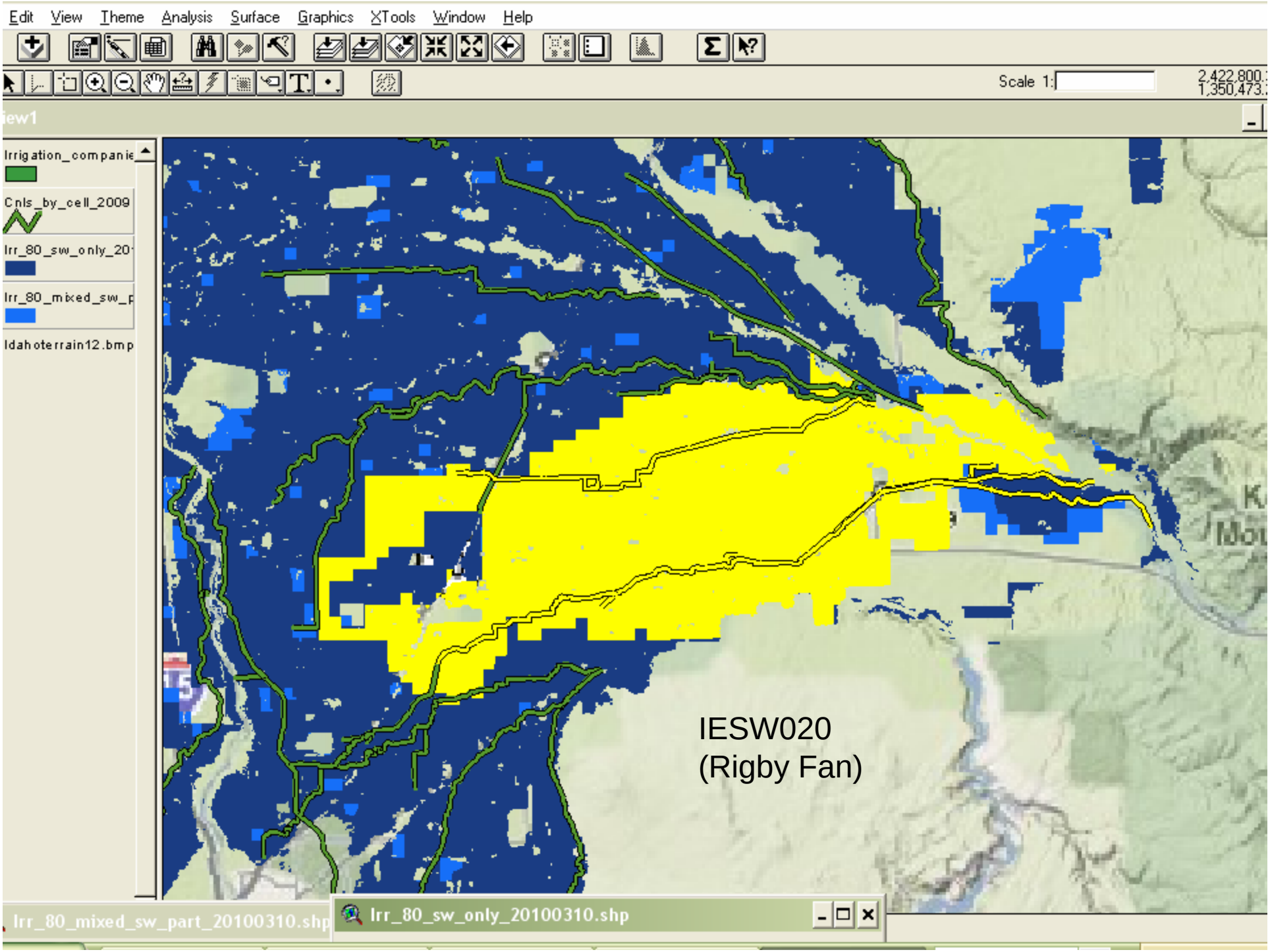
$$CF_{div} = 1.54\ (0.75) - 0.54 = 0.62$$

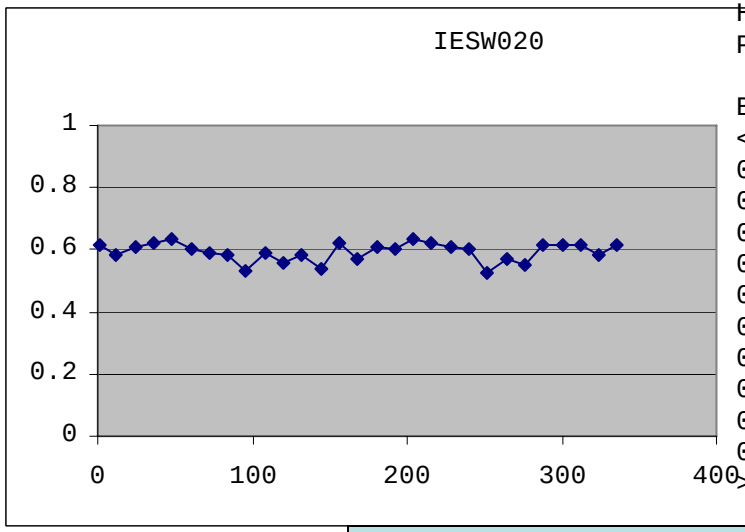
BEFORE RED
Entity IESW019

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 1184.597 | 18940.96 | 22981.53 | 0 | 20125.56 | 0.824182 |
| Irr_86 | 0 | 467.395 | 15894.66 | 19109.94 | 0 | 16362.05 | 0.831748 |
| Irr_92 | 0 | 363.579 | 18219.51 | 22191.57 | 0 | 18583.09 | 0.82101 |
| Irr_00 | 0 | 257.671 | 17768.05 | 21554.97 | 0 | 18025.72 | 0.824313 |
| Irr_06 | 0 | 342.744 | 17444.66 | 21120.4 | 0 | 17787.41 | 0.825963 |

1) We're checking the one odd year.
2) Make GW fraction smaller (MixFrac here larger) to reduce canal seepage somewhat.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
2,422,800
1,350,473
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW020
(Rigby Fan)
Irr_80_mixed_sw_part_20100310.shp
Irr_80_sw_only_20100310.shp



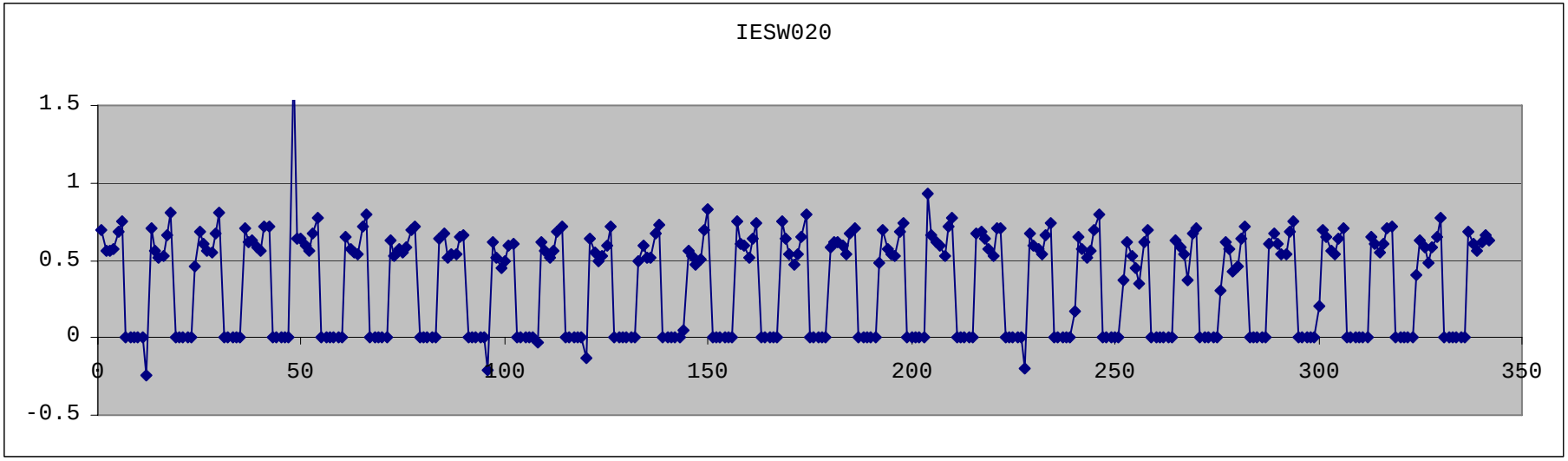

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_020_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

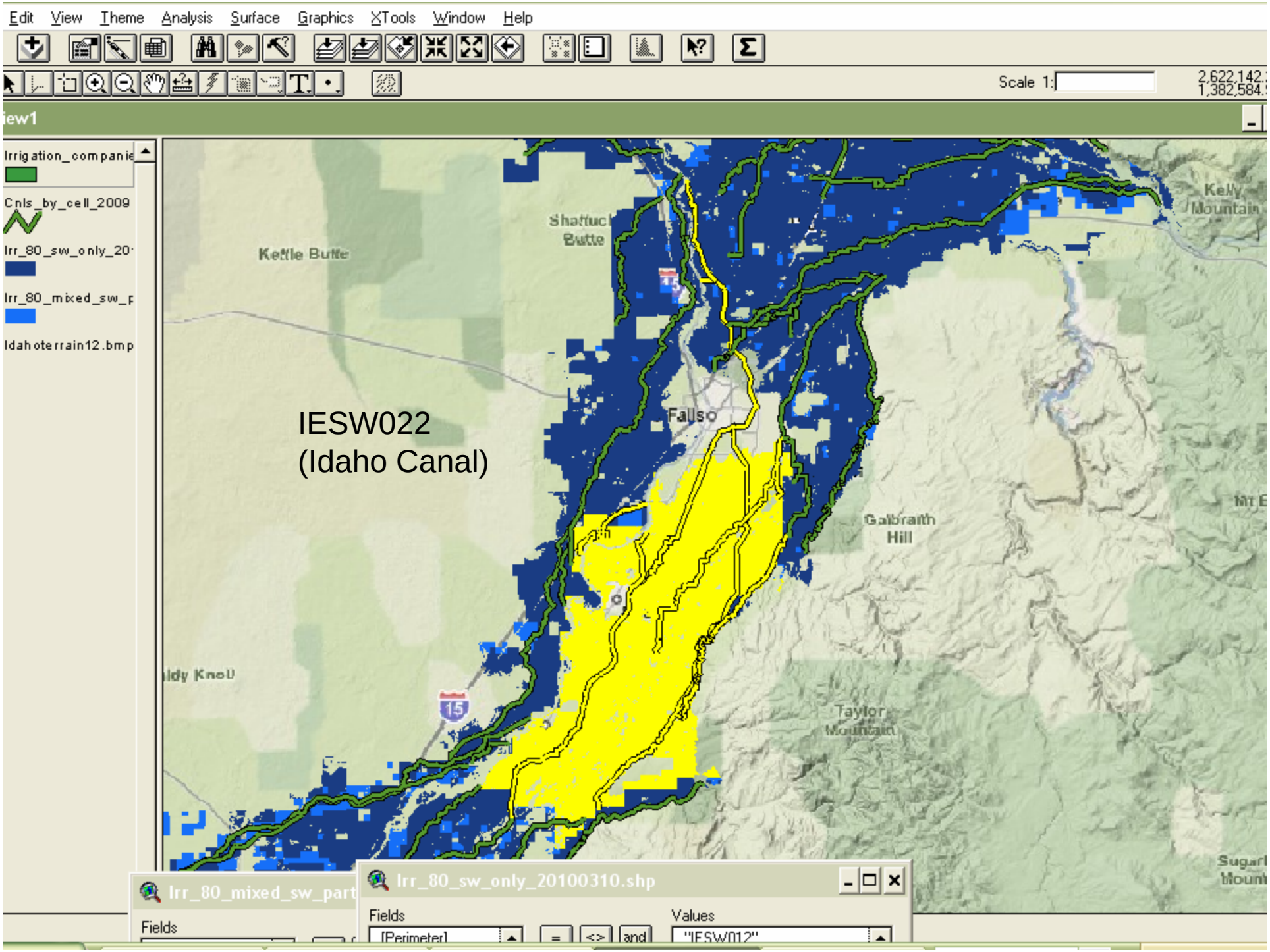
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 2 | 0 | 0 | 0 | 2 | 0 | 0 |
| 0.4-<0.5 | 3 | 1 | 0 | 7 | 2 | 0 | 0 |
| 0.5-<0.6 | 1 | 2 | 18 | 22 | 23 | 2 | 0 |
| 0.6-<0.7 | 4 | 24 | 11 | 0 | 2 | 20 | 4 |
| 0.7-<0.8 | 2 | 2 | 0 | 0 | 0 | 7 | 22 |
| 0.8-<0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0.9-<1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

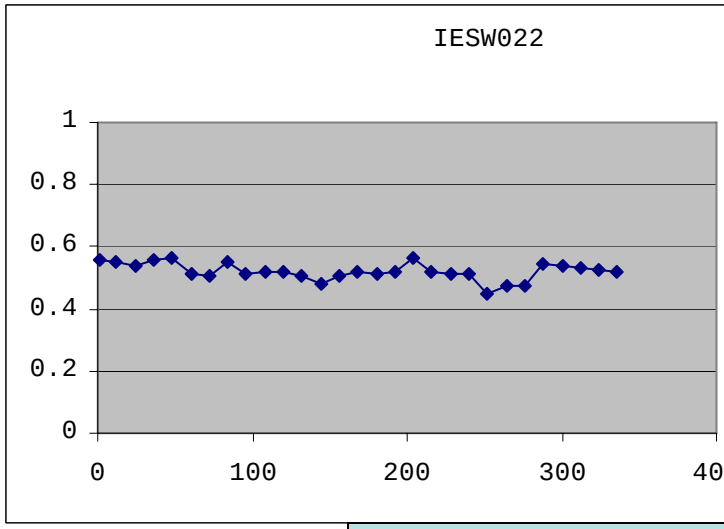
$$CF_{div} = 1.54\ (0.60) - 0.54 = 0.38$$

BEFORE RED
Entity IESW020

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 31071.25 | 1083.669 | 2635.513 | 0 | 32154.92 | 0.41118 |
| Irr_86 | 0 | 28357.15 | 1025.351 | 2445.982 | 0 | 29382.5 | 0.419198 |
| Irr_92 | 0 | 30257.06 | 1078.743 | 2594.502 | 0 | 31335.8 | 0.41578 |
| Irr_00 | 0 | 28327.84 | 1047.972 | 2471.05 | 0 | 29375.81 | 0.4241 |
| Irr_06 | 0 | 23212.22 | 925.796 | 2093.934 | 0 | 24138.01 | 0.442132 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Kettle Butte
Shattuck Butte
Kelly Mountain
Falls
Galbraith Hill
Taylor Mountain
15
IESW022
(Idaho Canal)
Irr_80_mixed_sw_part
Irr_80_sw_only_20100310.shp
Fields
Values
[Perimeter]
=
<>
and
"IESW012"




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_022_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 2 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 2 | 1 | 0 | 8 | 0 | 0 | 0 |
| 0.4-<0.5 | 2 | 6 | 21 | 20 | 13 | 0 | 0 |
| 0.5-<0.6 | 5 | 11 | 8 | 1 | 16 | 1 | 2 |
| 0.6-<0.7 | 2 | 10 | 0 | 0 | 0 | 27 | 11 |
| 0.7-<0.8 | 0 | 0 | 0 | 0 | 0 | 1 | 14 |
| 0.8-<0.9 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

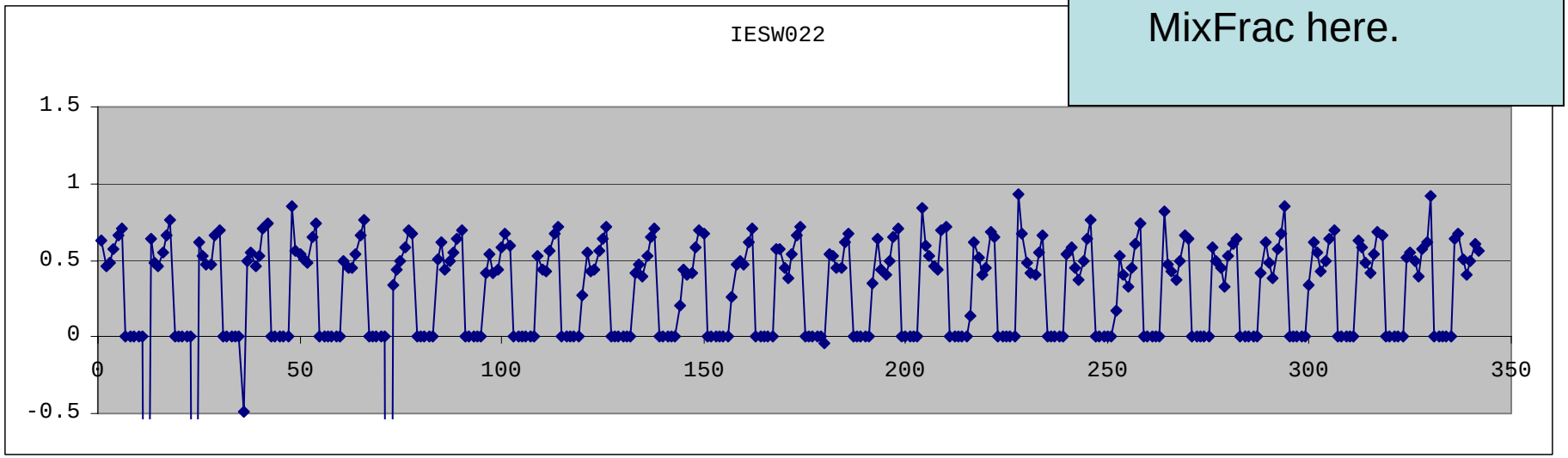
IESW022

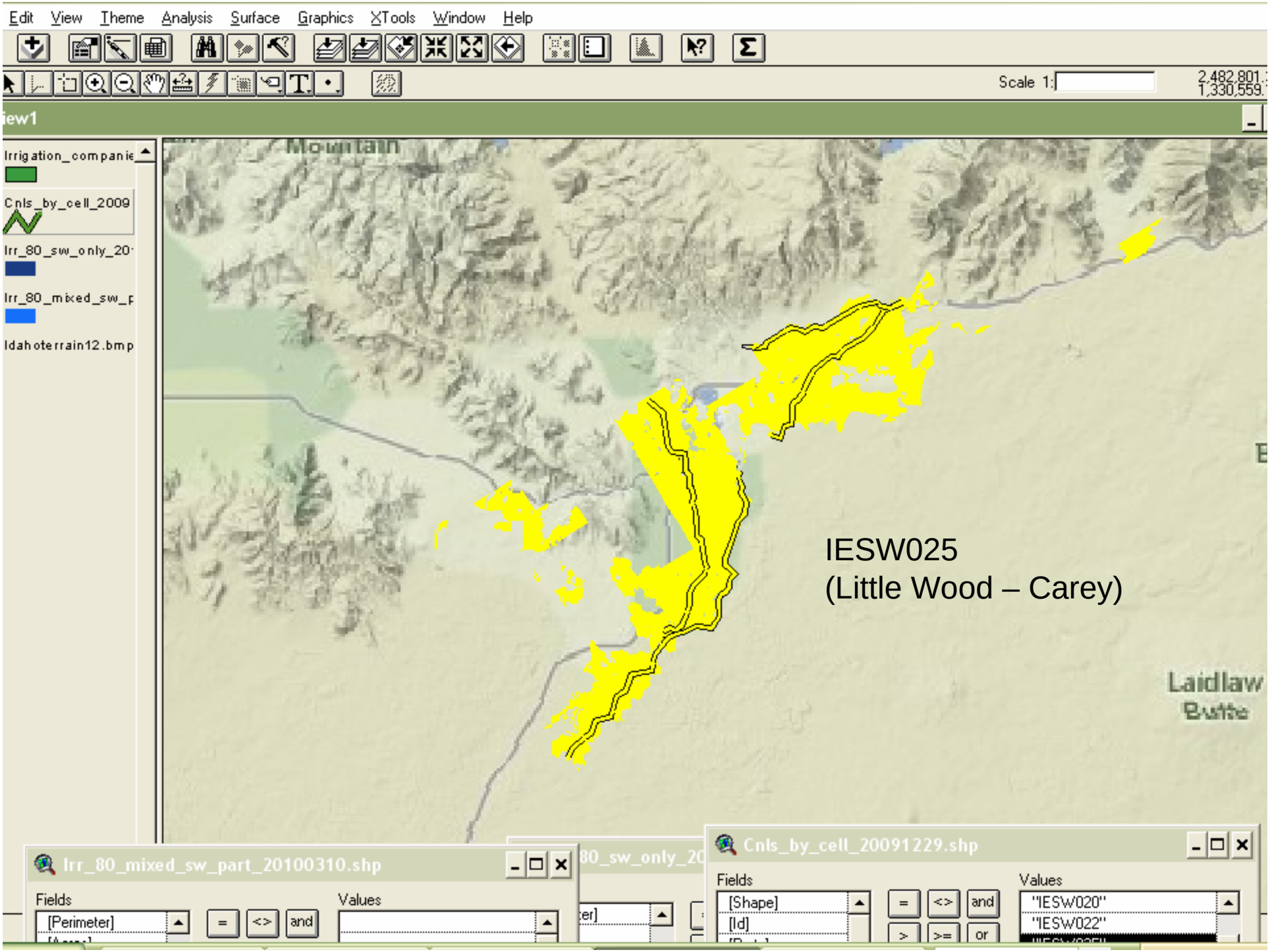
$$CF_{div} = 1.54\ (0.50) - 0.54 = 0.23$$

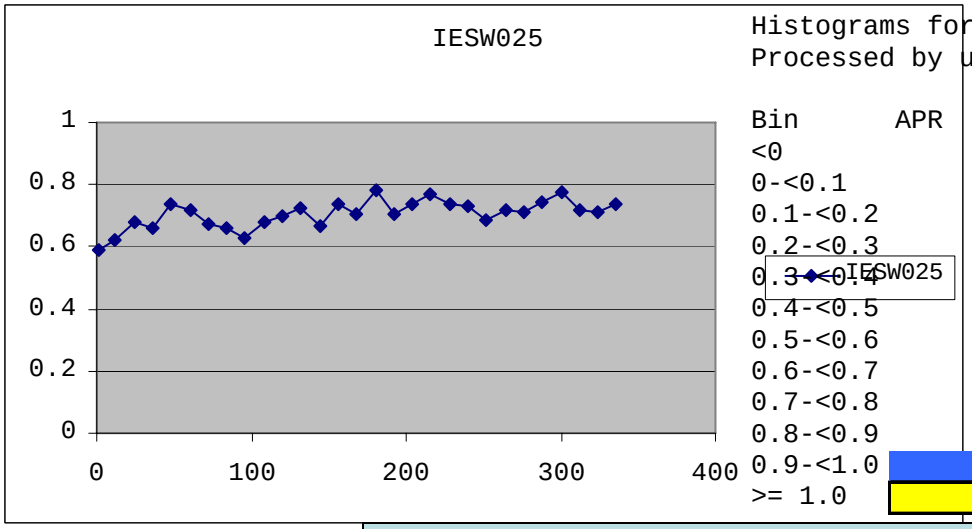
BEFORE RED
Entity IESW022

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 53514.74 | 1568.32 | 5945.366 | 0 | 55083.06 | 0.263789 |
| Irr_86 | 0 | 47958.24 | 1495.698 | 5673.453 | 0 | 49453.94 | 0.263631 |
| Irr_92 | 0 | 51638.57 | 1518.068 | 5693.304 | 0 | 53156.64 | 0.266641 |
| Irr_00 | 0 | 47899.03 | 1514.696 | 5785.768 | 0 | 49413.73 | 0.261797 |
| Irr_06 | 0 | 40497.04 | 1375.078 | 5239.72 | 0 | 41872.12 | 0.262433 |

1) CFfrac seems a little low for the area.
2) Consider increasing GW fraction to reduce MixFrac here.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Mountain
IESW025
(Little Wood – Carey)
Laidlaw
Butte
Irr_80_mixed_sw_part_20100310.shp
Fields
[Perimeter]
Values
Cnls_by_cell_20091229.shp
Fields
[Shape]
[Id]
Values
"IESW020"
"IESW022"




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_025_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

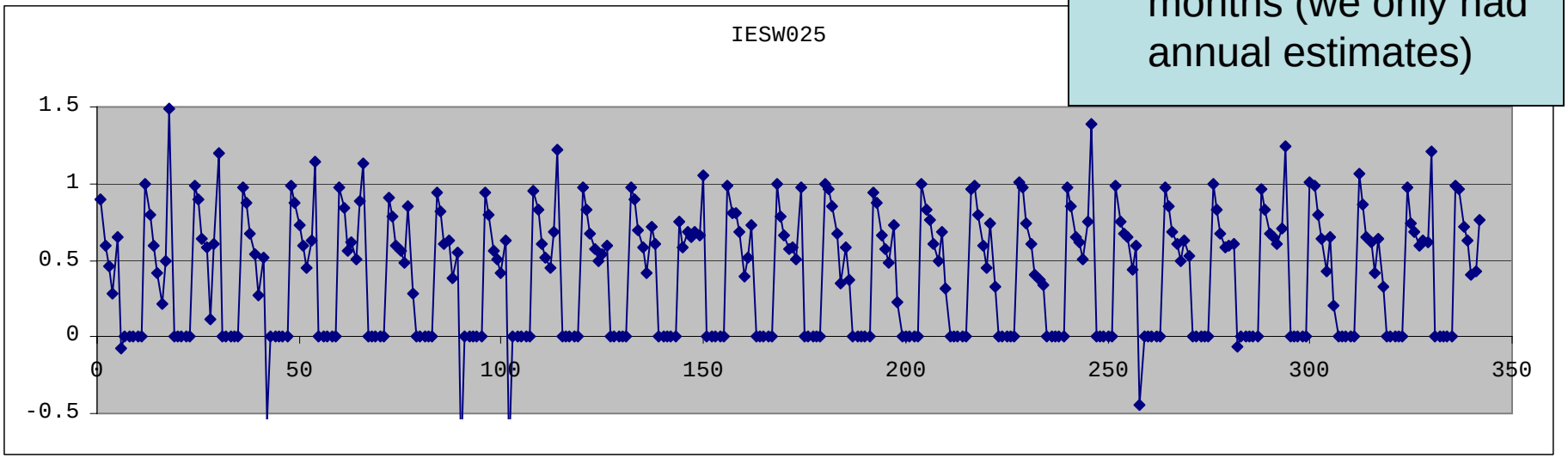
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| 0.3-<0.4 | 0 | 0 | 0 | 0 | 3 | 1 | 5 |
| 0.4-<0.5 | 0 | 0 | 0 | 2 | 15 | 2 | 0 |
| 0.5-<0.6 | 0 | 1 | 4 | 13 | 4 | 7 | 2 |
| 0.6-<0.7 | 0 | 0 | 17 | 14 | 3 | 12 | 1 |
| 0.7-<0.8 | 1 | 5 | 5 | 0 | 0 | 5 | 2 |
| 0.8-<0.9 | 0 | 18 | 3 | 0 | 0 | 2 | 0 |
| 0.9-<1.0 | 23 | 5 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 4 | 0 | 0 | 0 | 0 | 0 | 9 |

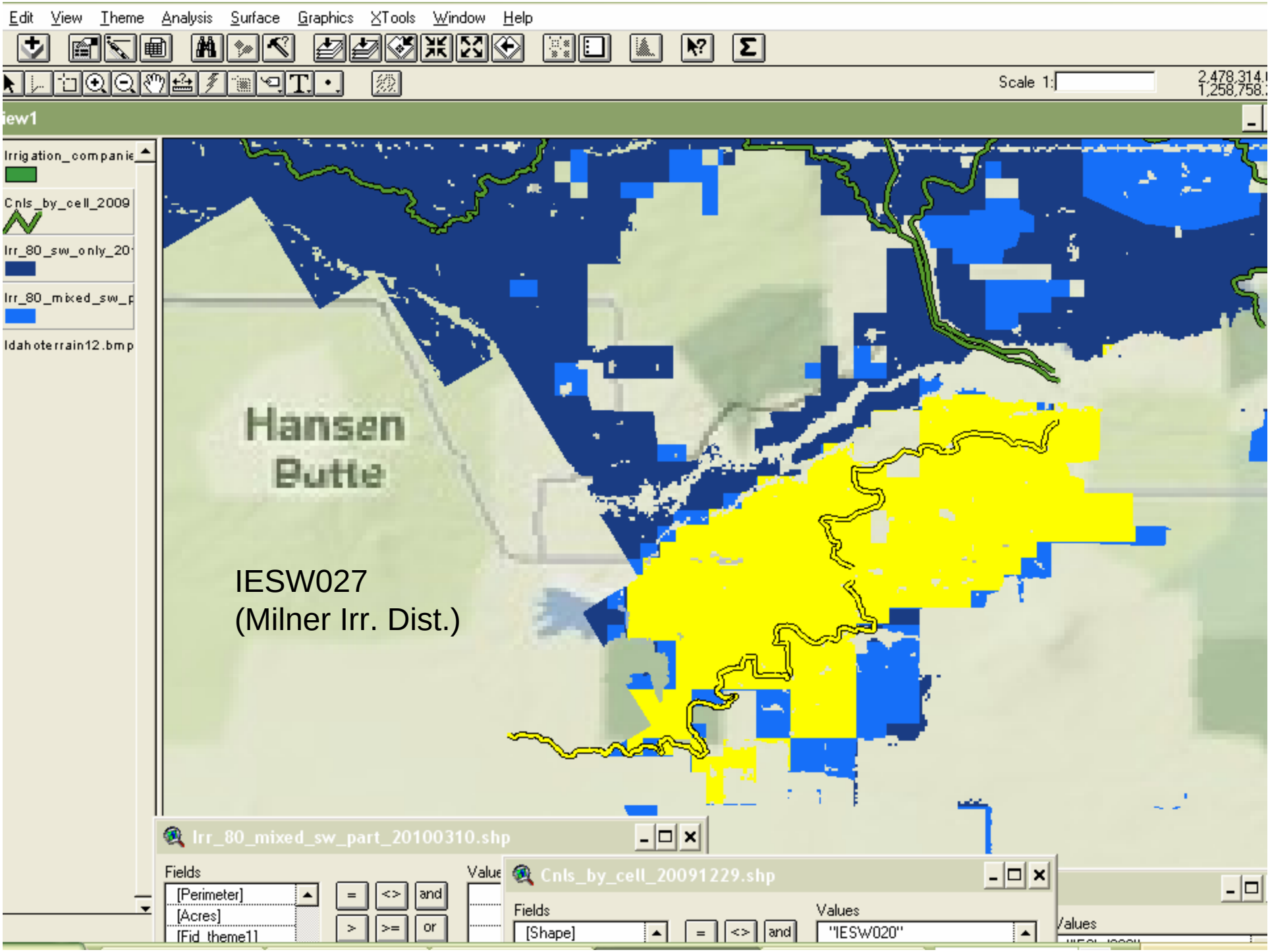
$$CF_{div} = 1.54\ (0.70) - 0.54 = 0.54$$

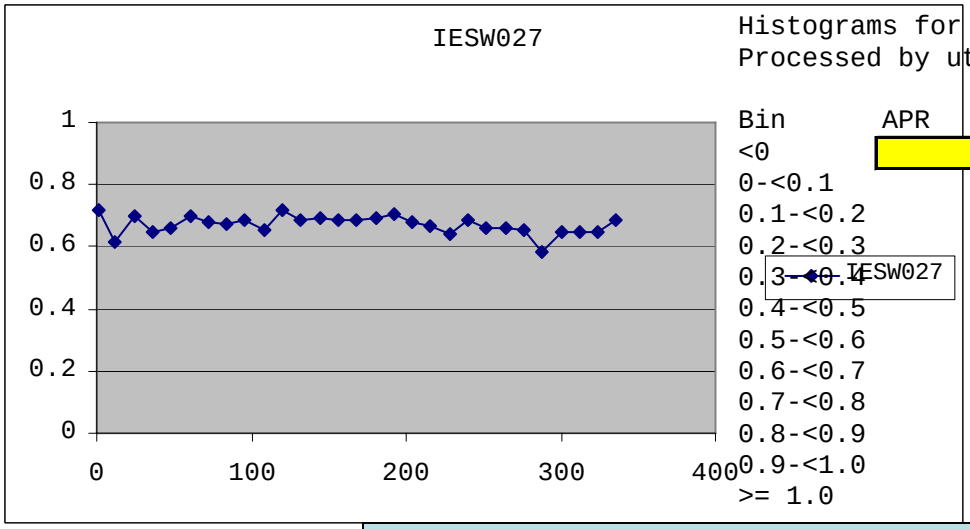
BEFORE RED
Entity IESW025

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 9479.679 | 6095.327 | 10261.75 | 0 | 15575.01 | 0.593985 |
| Irr_86 | 0 | 7099.895 | 5209.606 | 8875.101 | 0 | 12309.5 | 0.586991 |
| Irr_92 | 0 | 6838.558 | 4950.74 | 8413.19 | 0 | 11789.3 | 0.58845 |
| Irr_00 | 0 | 6862.99 | 4744.945 | 8172.684 | 0 | 11607.94 | 0.580586 |
| Irr_06 | 0 | 6442.544 | 4595.288 | 7662.698 | 0 | 11037.83 | 0.599696 |

1) Make MixFrac larger to reduce seepage;
2) Re-do arbitrary temporal dist. to months (we only had annual estimates)




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Hansen Butte
IESW027
(Milner Irr. Dist.)
Irr_80_mixed_sw_part_20100310.shp
Fields
[Perimeter]
[Acres]
[Fid_theme1]
and
or
Cnls_by_cell_20091229.shp
Fields
[Shape]
Values
"IESW020"




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_027_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

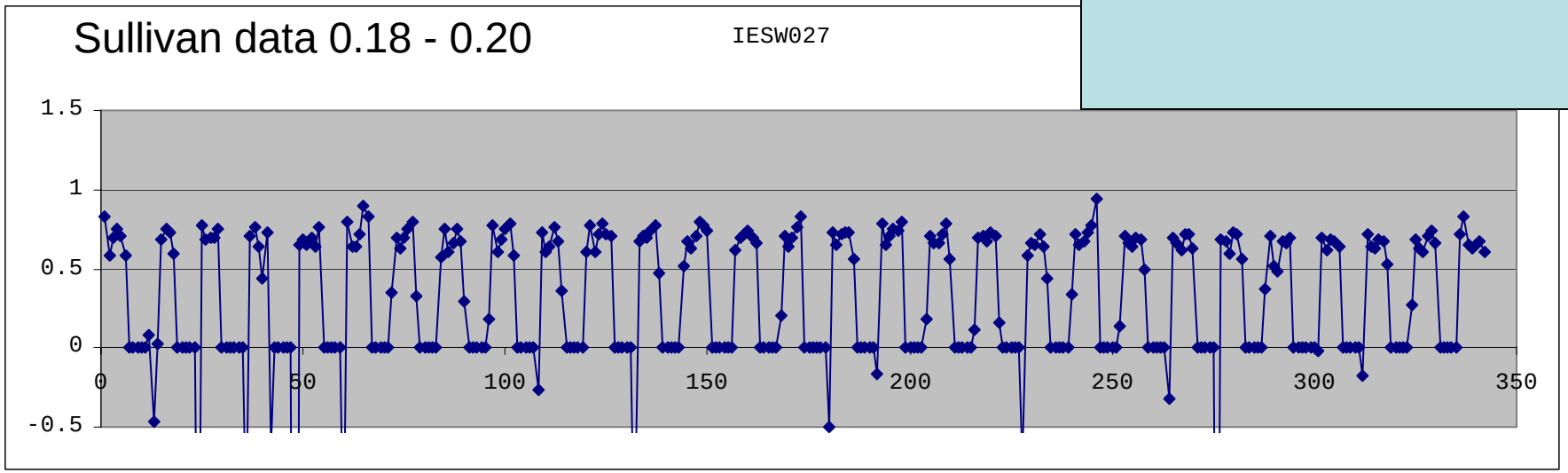
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 12 | 2 | 0 | 0 | 0 | 0 | 1 |
| 0-<0.1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 4 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.2-<0.3 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.3-<0.4 | 3 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0.4-<0.5 | 0 | 0 | 0 | 1 | 1 | 0 | 3 |
| 0.5-<0.6 | 2 | 1 | 2 | 1 | 0 | 0 | 7 |
| 0.6-<0.7 | 1 | 9 | 22 | 22 | 7 | 10 | 6 |
| 0.7-<0.8 | 1 | 15 | 4 | 5 | 21 | 16 | 3 |
| 0.8-<0.9 | 0 | 2 | 0 | 0 | 0 | 3 | 2 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

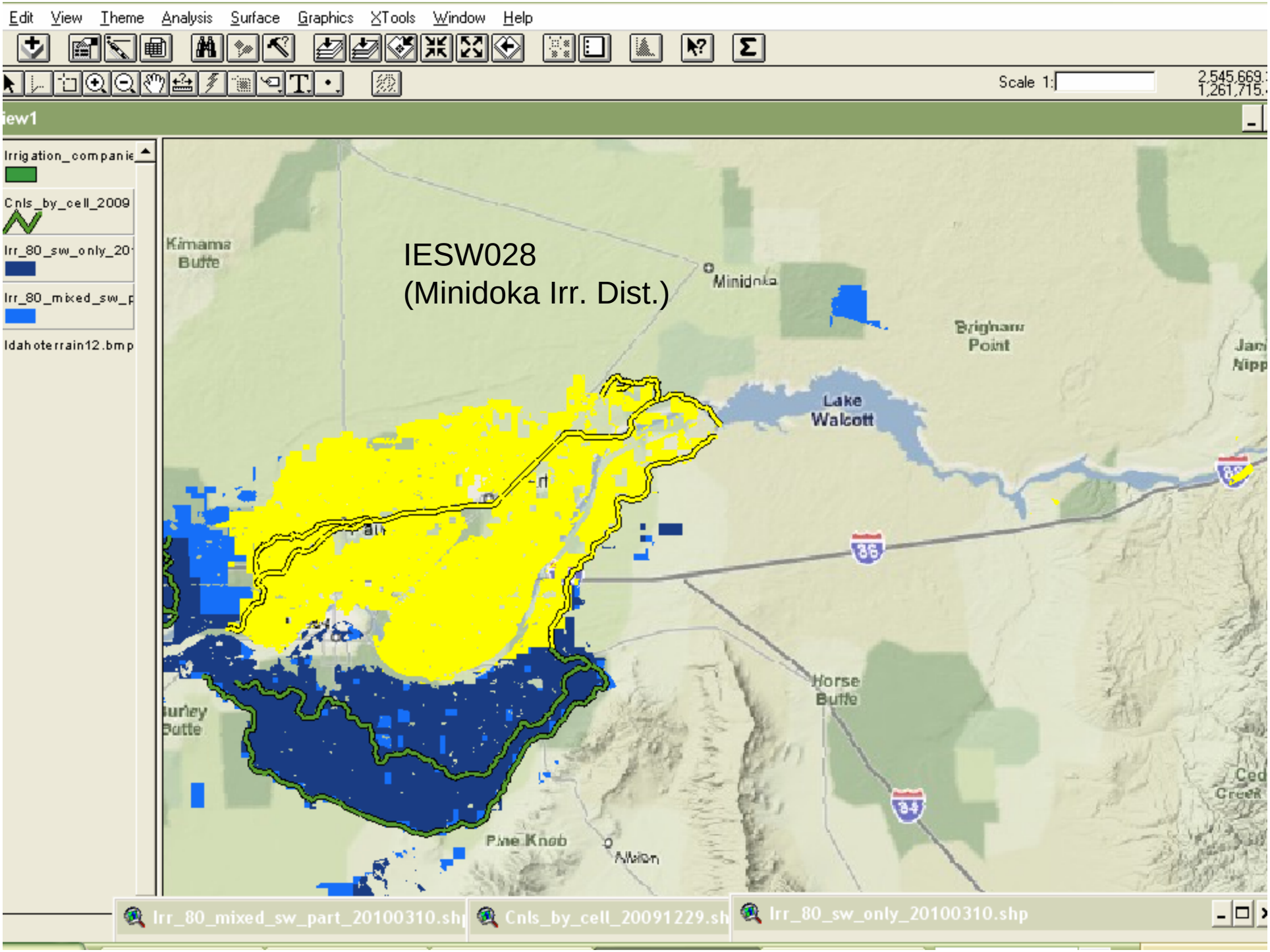
$$CF_{div} = 1.54\ (0.70) - 0.54 = 0.54$$

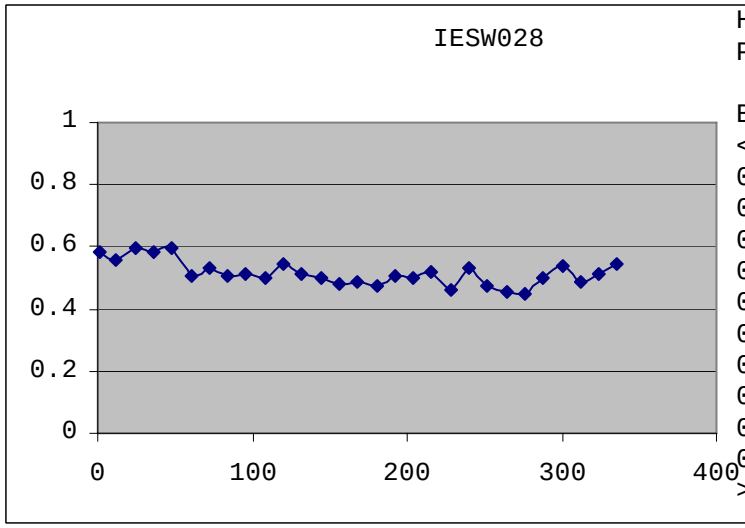
BEFORE RED
Entity IESW027

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 417.024 | 8040.396 | 12471.58 | 0 | 8457.42 | 0.644698 |
| Irr_86 | 0 | 377.11 | 7460.351 | 11564.41 | 0 | 7837.461 | 0.645113 |
| Irr_92 | 0 | 346.982 | 7226.079 | 11618.18 | 0 | 7573.061 | 0.621963 |
| Irr_00 | 0 | 396.584 | 7975.586 | 12369.1 | 0 | 8372.17 | 0.644799 |
| Irr_06 | 0 | 364.049 | 7475.575 | 11614.65 | 0 | 7839.624 | 0.643633 |

This seems high - consider reducing MixFrac




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW028
(Minidoka Irr. Dist.)
Kimama Butte
Minidoka
Brigham Point
Lake Walcott
Horse Butte
Pine Knob
Irr_80_mixed_sw_part_20100310.shp
Cnls_by_cell_20091229.sh
Irr_80_sw_only_20100310.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_028_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

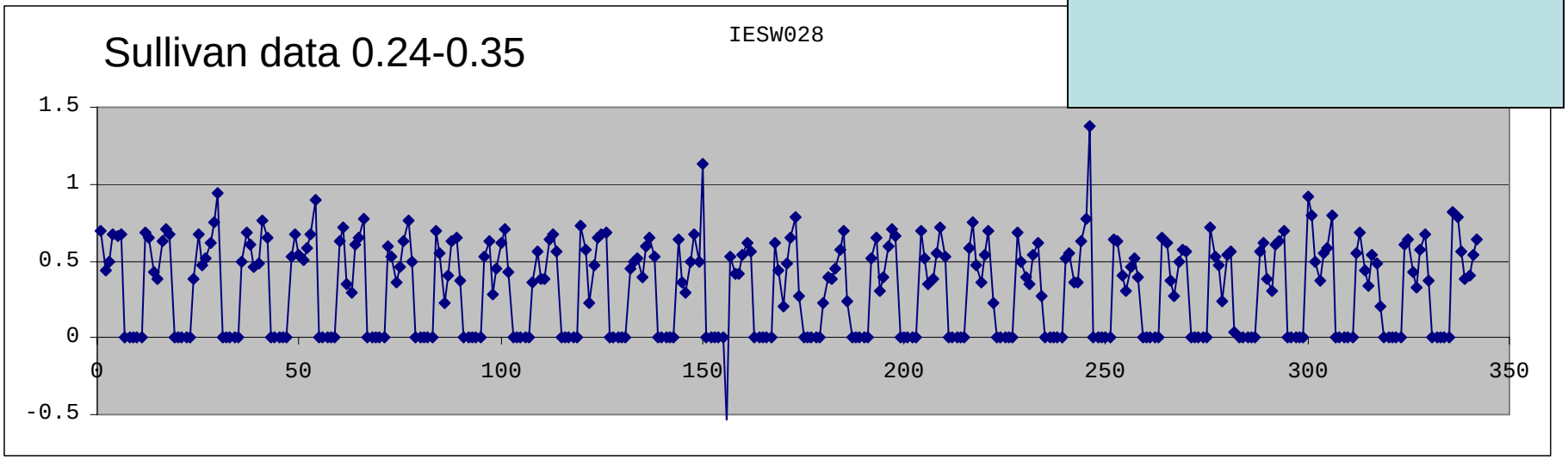
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 5 | 3 | 0 | 0 | 5 |
| 0.3-<0.4 | 2 | 2 | 10 | 14 | 0 | 0 | 3 |
| 0.4-<0.5 | 2 | 3 | 10 | 10 | 4 | 2 | 2 |
| 0.5-<0.6 | 8 | 8 | 3 | 2 | 12 | 5 | 5 |
| 0.6-<0.7 | 10 | 12 | 1 | 0 | 13 | 13 | 6 |
| 0.7-<0.8 | 2 | 4 | 0 | 0 | 0 | 9 | 3 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |

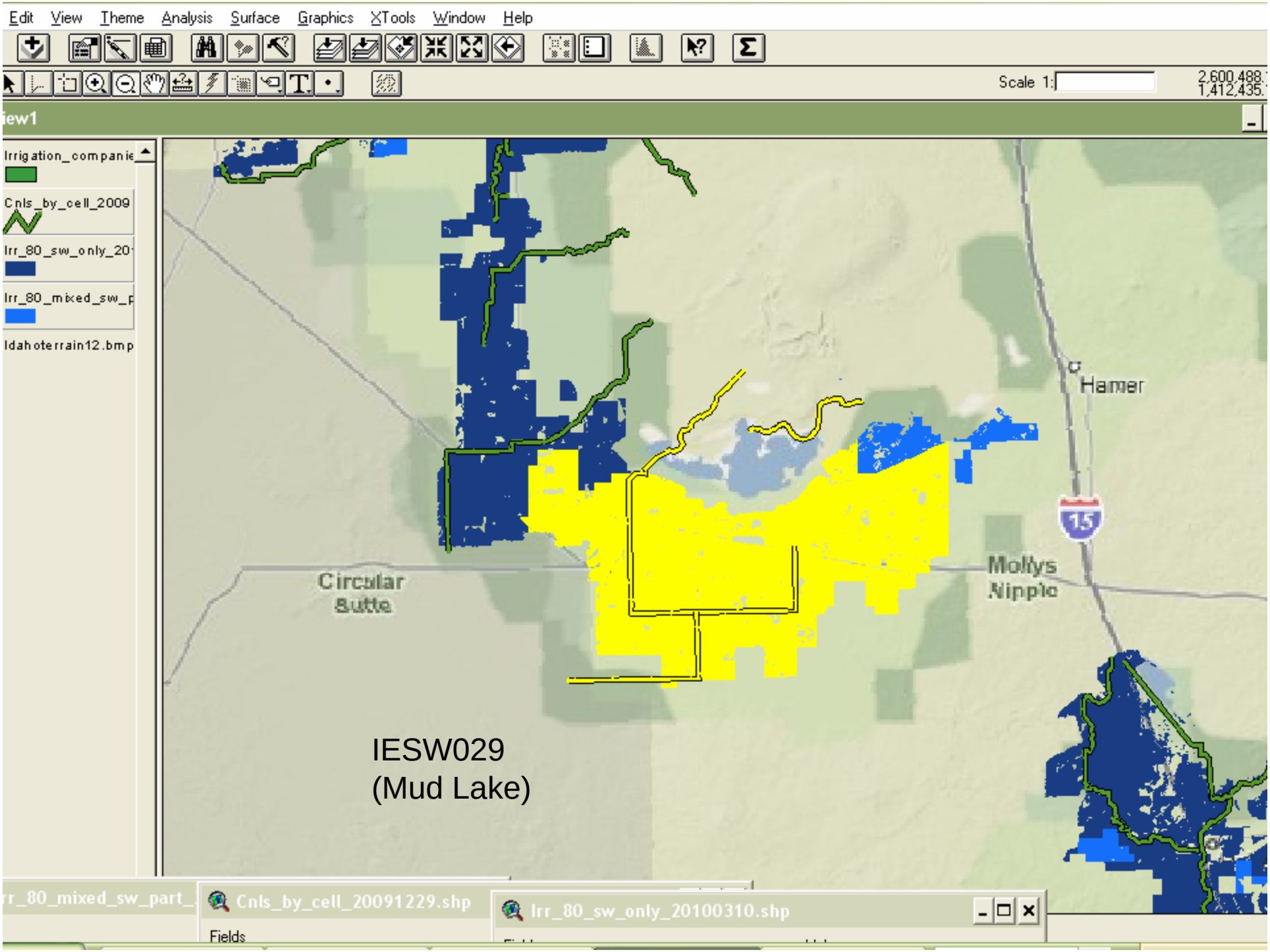
$$CF_{div} = 1.54\ (0.50) - 0.54 = 0.21$$

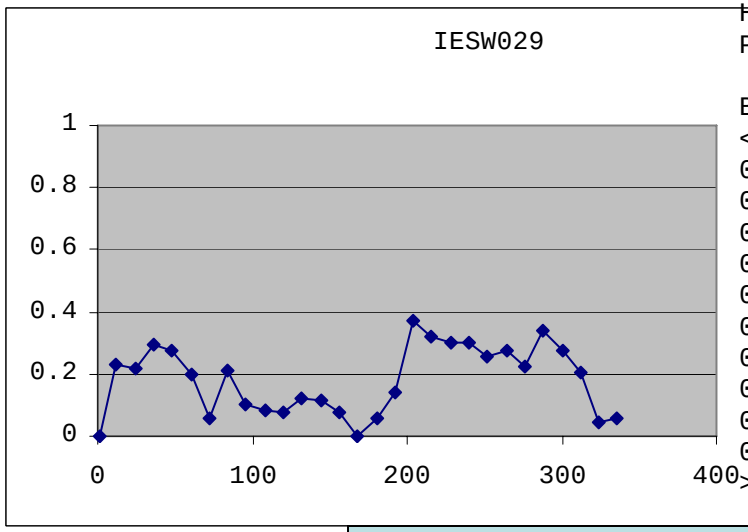
BEFORE RED
Entity IESW028

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 74009.97 | 577.235 | 1517.559 | 0 | 74587.2 | 0.380371 |
| Irr_86 | 0 | 71883.32 | 570.237 | 1491.604 | 0 | 72453.56 | 0.382298 |
| Irr_92 | 0 | 72442.46 | 593.63 | 1560.788 | 0 | 73036.09 | 0.38034 |
| Irr_00 | 0 | 71929.57 | 535.897 | 1438.024 | 0 | 72465.47 | 0.372662 |
| Irr_06 | 0 | 62772.81 | 497.537 | 1292.661 | 0 | 63270.35 | 0.384894 |

Increase GW use on mixed source lands to get closer to Sullivan data.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Hamer
15
Mollys Nipple
Circular Butte
IESW029
(Mud Lake)
Cnls_by_cell_20091229.shp
Irr_80_sw_only_20100310.shp
Fields




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_029_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

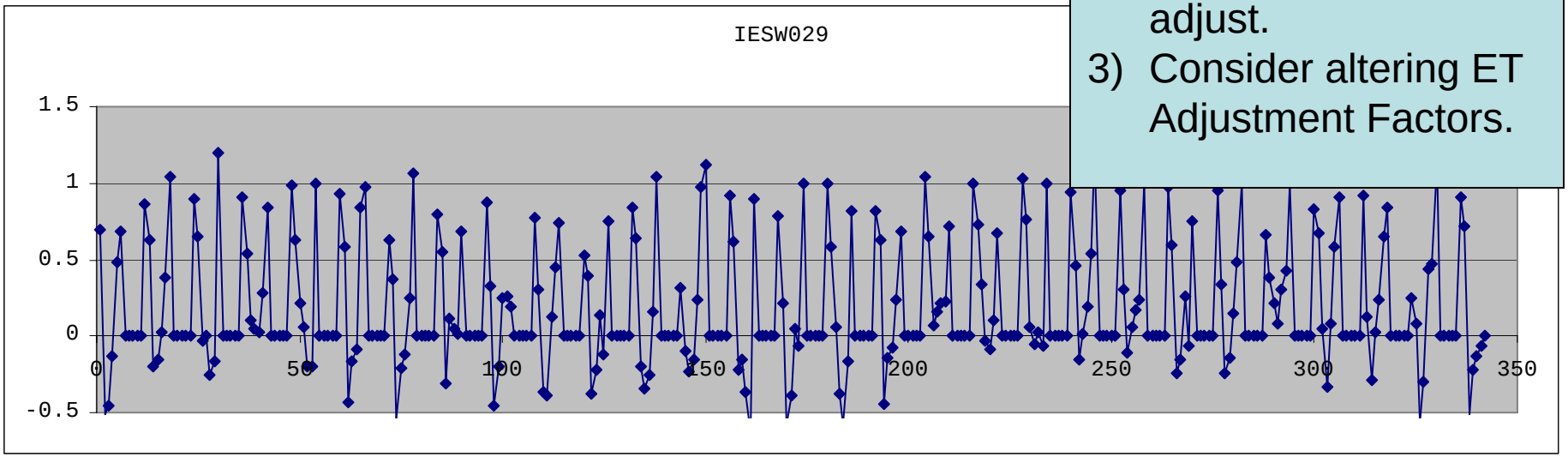
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 1 | 21 | 20 | 11 | 9 | 0 |
| 0-<0.1 | 0 | 1 | 4 | 7 | 6 | 1 | 0 |
| 0.1-<0.2 | 0 | 1 | 1 | 2 | 5 | 2 | 1 |
| 0.2-<0.3 | 1 | 1 | 2 | 0 | 5 | 6 | 0 |
| 0.3-<0.4 | 1 | 7 | 1 | 0 | 1 | 1 | 0 |
| 0.4-<0.5 | 0 | 1 | 0 | 0 | 1 | 5 | 0 |
| 0.5-<0.6 | 1 | 5 | 0 | 0 | 0 | 2 | 0 |
| 0.6-<0.7 | 2 | 9 | 0 | 0 | 0 | 1 | 4 |
| 0.7-<0.8 | 2 | 3 | 0 | 0 | 0 | 0 | 4 |
| 0.8-<0.9 | 7 | 0 | 0 | 0 | 0 | 1 | 4 |
| 0.9-<1.0 | 12 | 0 | 0 | 0 | 0 | 1 | 7 |
| >= 1.0 | 2 | 0 | 0 | 0 | 0 | 0 | 8 |

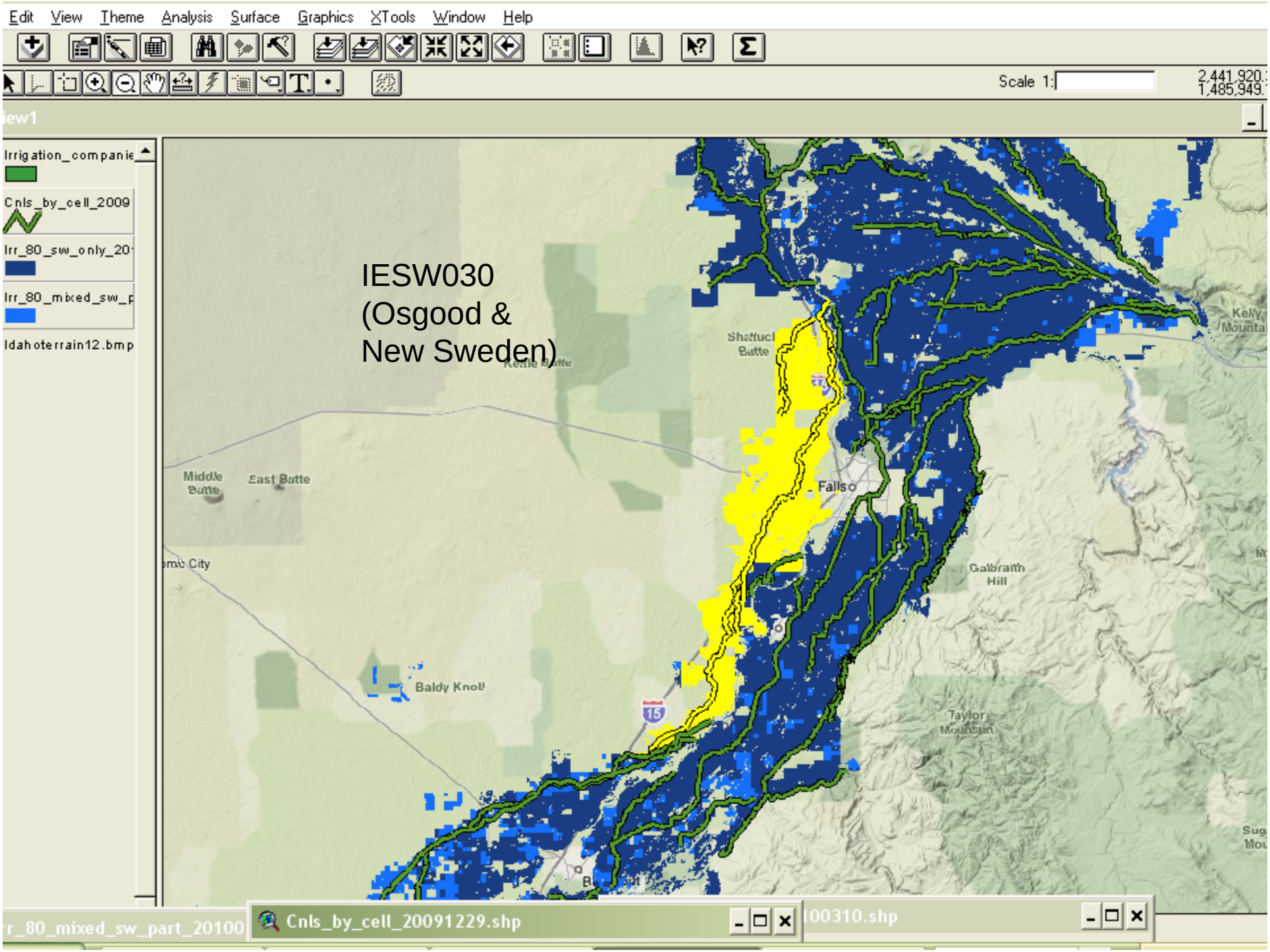
$CF_{div}$ = 1.54 (0.35 ) - 0.54 = zero

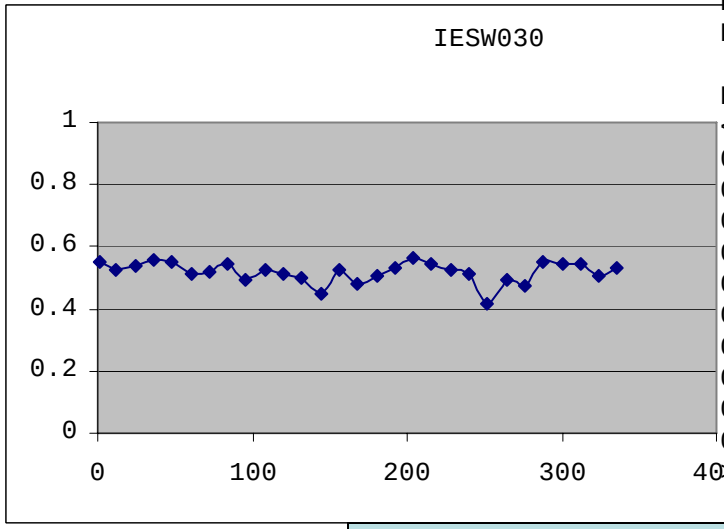
BEFORE RED
Entity IESW029

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 34494.5 | 0 | 0 | 0 | 34494.5 | - |
| Irr_86 | 0 | 32344.04 | 0 | 0 | 0 | 32344.04 | - |
| Irr_92 | 0 | 34912.98 | 0 | 0 | 0 | 34912.98 | - |
| Irr_00 | 0 | 33844.56 | 0 | 0 | 0 | 33844.56 | - |
| Irr_06 | 0 | 32001.72 | 0 | 0 | 0 | 32001.72 | - |

1) Canal leakage will be very low, but not this low.
2) No Mixed-source to adjust.
3) Consider altering ET Adjustment Factors.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW030
(Osgood &
New Sweden)
Shattuck Butte
Kettle Butte
Middle Butte
East Butte
Falls
Galbraith Hill
Baldy Knoll
Taylor Mountain
Kelly Mountain
Cnls_by_cell_20091229.shp
00310.shp
r_80_mixed_sw_part_20100



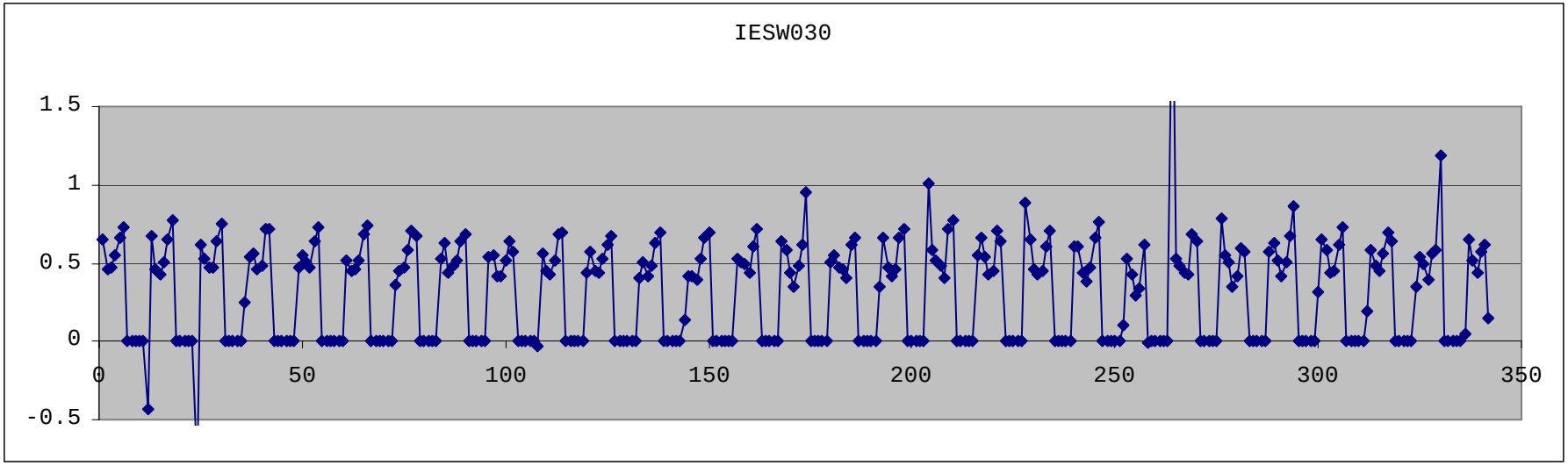

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_030_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

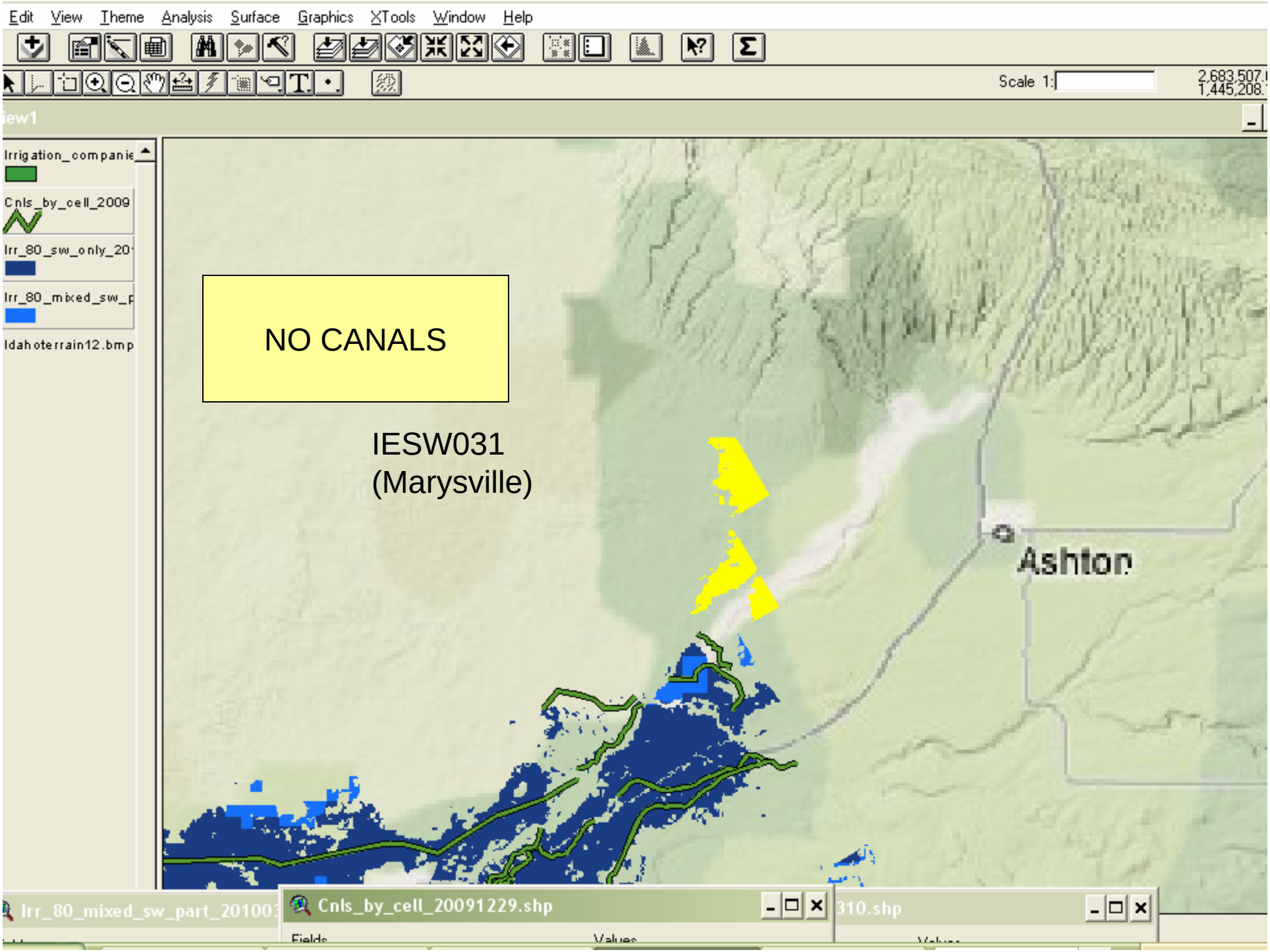
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0-<0.1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 3 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.2-<0.3 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0.3-<0.4 | 3 | 1 | 0 | 5 | 1 | 0 | 0 |
| 0.4-<0.5 | 1 | 3 | 18 | 22 | 15 | 0 | 0 |
| 0.5-<0.6 | 5 | 14 | 11 | 1 | 13 | 2 | 2 |
| 0.6-<0.7 | 2 | 11 | 0 | 0 | 0 | 23 | 10 |
| 0.7-<0.8 | 1 | 0 | 0 | 0 | 0 | 4 | 12 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |

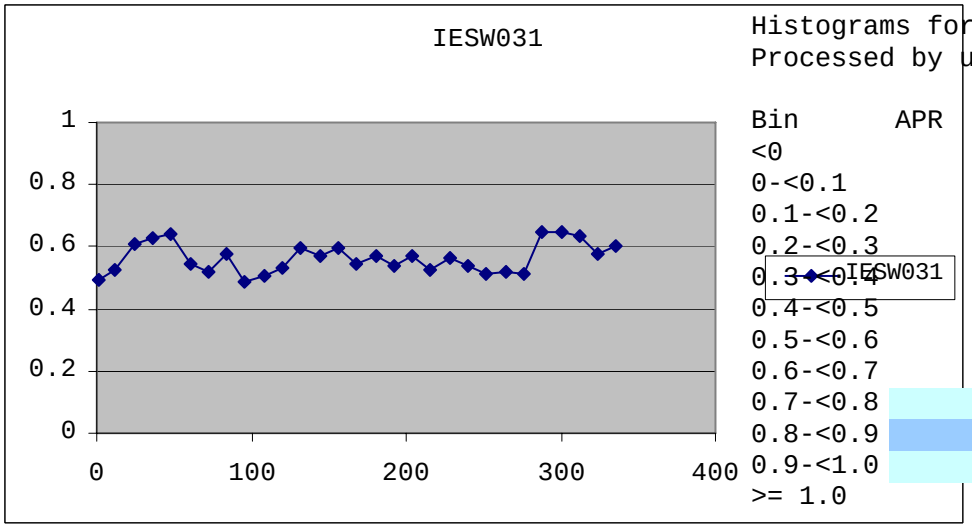
$$CF_{div} = 1.54\ (0.50) - 0.54 = 0.21$$

BEFORE RED
Entity IESW030

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 40571.52 | 490.648 | 1475.511 | 0 | 41062.17 | 0.332528 |
| Irr_86 | 0 | 37116.05 | 437.871 | 1283.843 | 0 | 37553.92 | 0.341063 |
| Irr_92 | 0 | 40071.66 | 503.54 | 1519.268 | 0 | 40575.2 | 0.331436 |
| Irr_00 | 0 | 37051.4 | 457.277 | 1382.066 | 0 | 37508.68 | 0.330865 |
| Irr_06 | 0 | 33630.93 | 424.488 | 1290.814 | 0 | 34055.41 | 0.328853 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
NO CANALS
IESW031
(Marysville)
Ashton
Irr_80_mixed_sw_part_201003
Cnls_by_cell_20091229.shp
310.shp



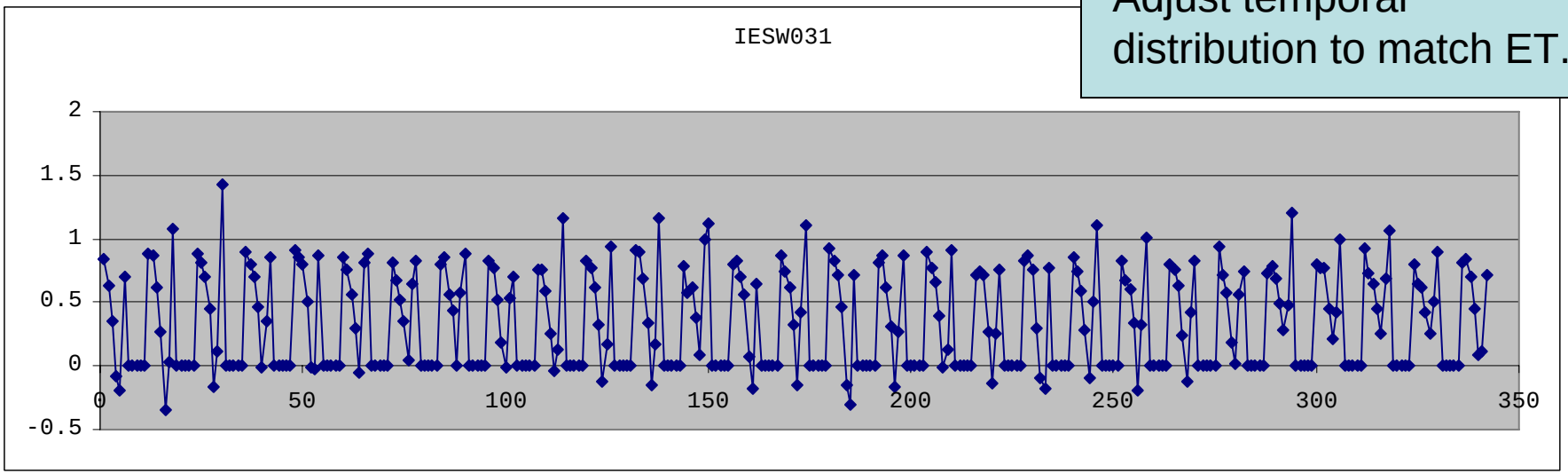

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_031_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

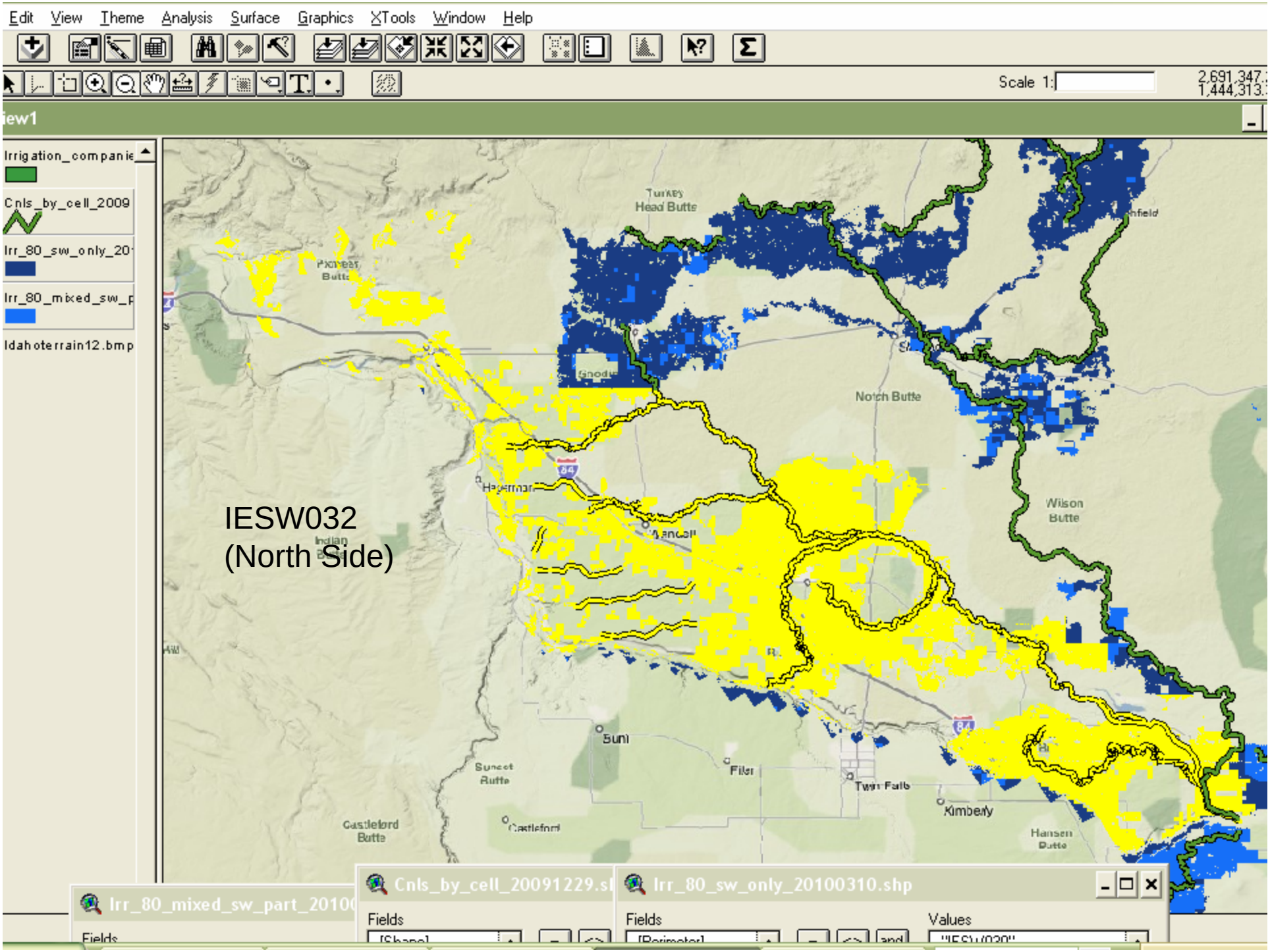
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 19 | 5 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 6 | 1 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 2 | 0 | 6 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 5 | 4 | 2 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 11 | 0 | 2 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 9 | 0 | 4 | 0 |
| 0.5-<0.6 | 0 | 1 | 7 | 2 | 0 | 5 | 0 |
| 0.6-<0.7 | 0 | 3 | 14 | 0 | 0 | 2 | 3 |
| 0.7-<0.8 | 7 | 14 | 8 | 0 | 0 | 0 | 5 |
| 0.8-<0.9 | 15 | 10 | 0 | 0 | 0 | 1 | 7 |
| 0.9-<1.0 | 6 | 1 | 0 | 0 | 0 | 1 | 4 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |

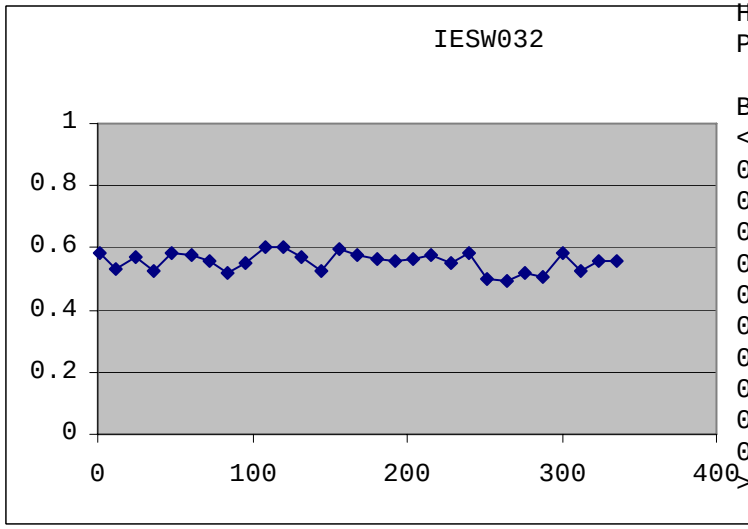
BEFORE RED
Entity IESW031

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 1194.015 | 39.426 | 96.038 | 0 | 1233.441 | 0.410525 |
| Irr_86 | 0 | 2258.985 | 58.119 | 163.408 | 0 | 2317.104 | 0.355668 |
| Irr_92 | 0 | 1677.485 | 36.902 | 103.429 | 0 | 1714.387 | 0.356786 |
| Irr_00 | 0 | 1467.026 | 42.22 | 107.093 | 0 | 1509.246 | 0.394237 |
| Irr_06 | 0 | 1221.4 | 39.497 | 93.059 | 0 | 1260.897 | 0.42443 |

Consider folding this into IESW000 since we are estimating diversions anyway. Adjust temporal distribution to match ET.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW032
(North Side)
Turkey Head Butte
Notch Butte
Wilson Butte
Hazelton
Sun
Filer
Twin Falls
Kimberly
Castleford
Castleford Butte
Sunset Butte
Hansen Butte
Cnls_by_cell_20091229.sl
Irr_80_sw_only_20100310.shp
Irr_80_mixed_sw_part_2010
Fields
Values




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_032_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

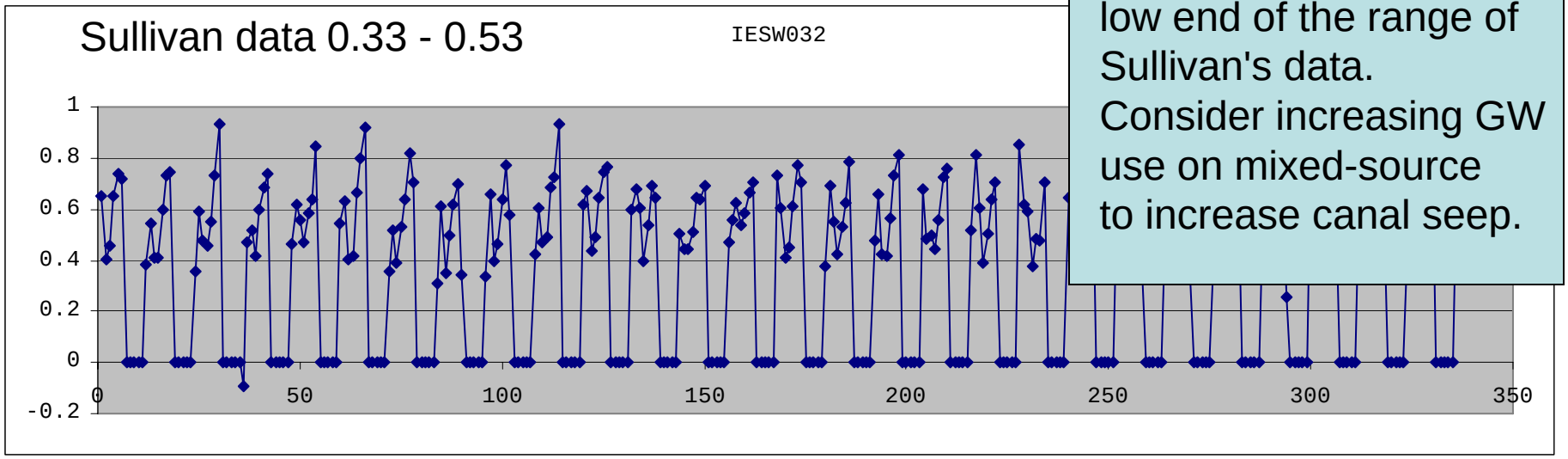
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.3-<0.4 | 6 | 0 | 3 | 5 | 0 | 0 | 1 |
| 0.4-<0.5 | 5 | 3 | 16 | 21 | 3 | 1 | 2 |
| 0.5-<0.6 | 8 | 8 | 6 | 3 | 16 | 2 | 2 |
| 0.6-<0.7 | 5 | 15 | 4 | 0 | 10 | 13 | 3 |
| 0.7-<0.8 | 1 | 2 | 0 | 0 | 0 | 12 | 13 |
| 0.8-<0.9 | 2 | 1 | 0 | 0 | 0 | 1 | 4 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

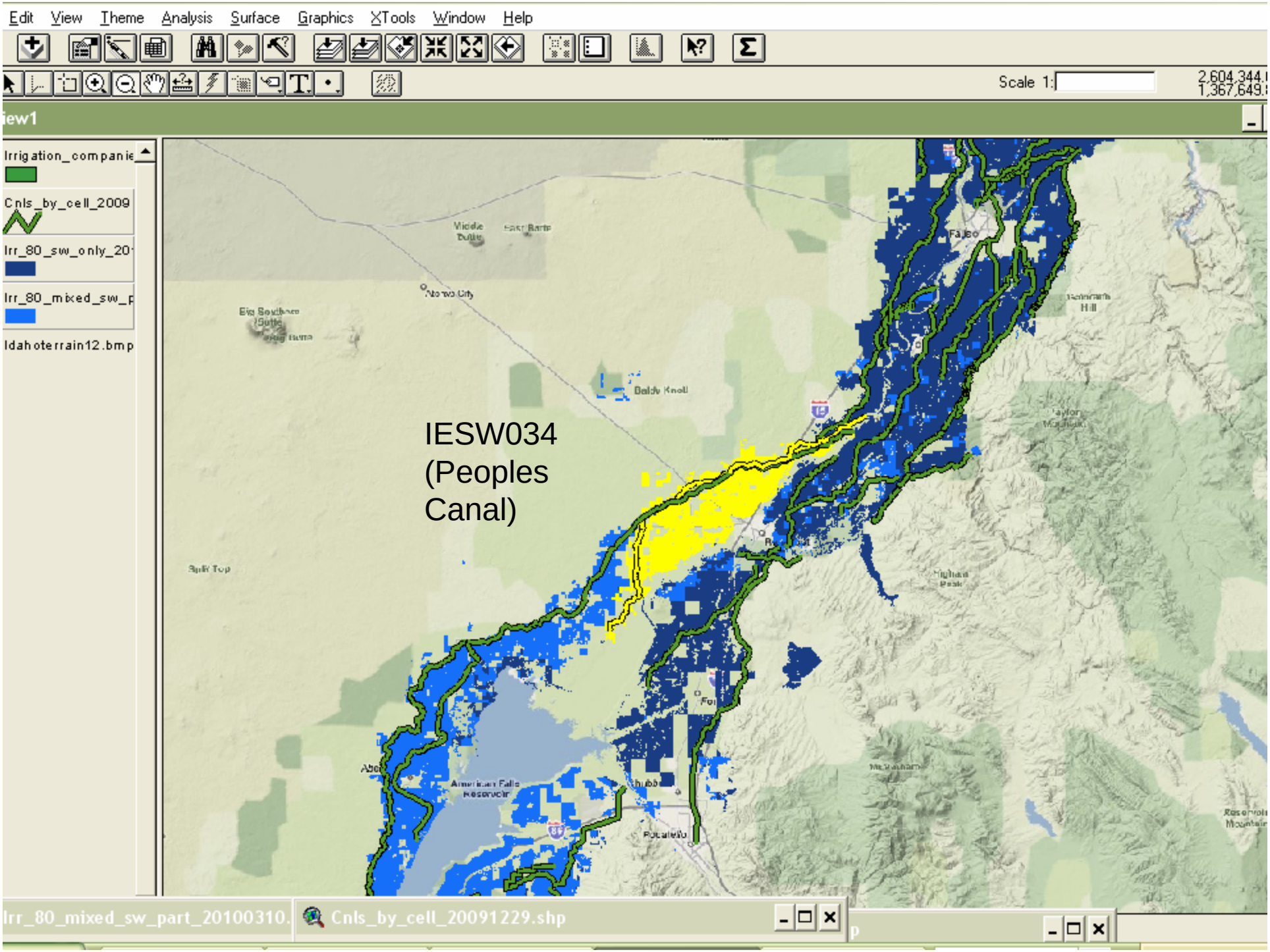
$$CF_{div} = 1.54\ (0.55) - 0.54 = 0.31$$

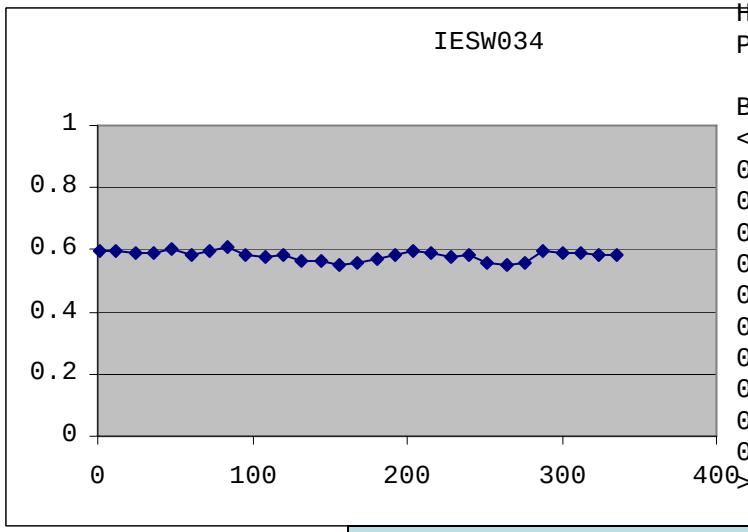
BEFORE RED
Entity IESW032

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 172961.3 | 4774.583 | 12015.82 | 0 | 177735.9 | 0.397358 |
| Irr_86 | 0 | 144210.5 | 4119.503 | 10246.97 | 0 | 148330 | 0.402022 |
| Irr_92 | 0 | 157069.9 | 4427.142 | 11147.68 | 0 | 161497.1 | 0.397136 |
| Irr_00 | 0 | 155263.7 | 4343.103 | 10918.36 | 0 | 159606.8 | 0.39778 |
| Irr_06 | 0 | 141351.8 | 3899.246 | 9839.266 | 0 | 145251.1 | 0.396294 |

This is reasonably close to canal-company estimates from 2 rounds of interviews, but is at the low end of the range of Sullivan's data. Consider increasing GW use on mixed-source to increase canal seep.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW034
(Peoples
Canal)
Irr_80_mixed_sw_part_20100310.
Cnls_by_cell_20091229.shp



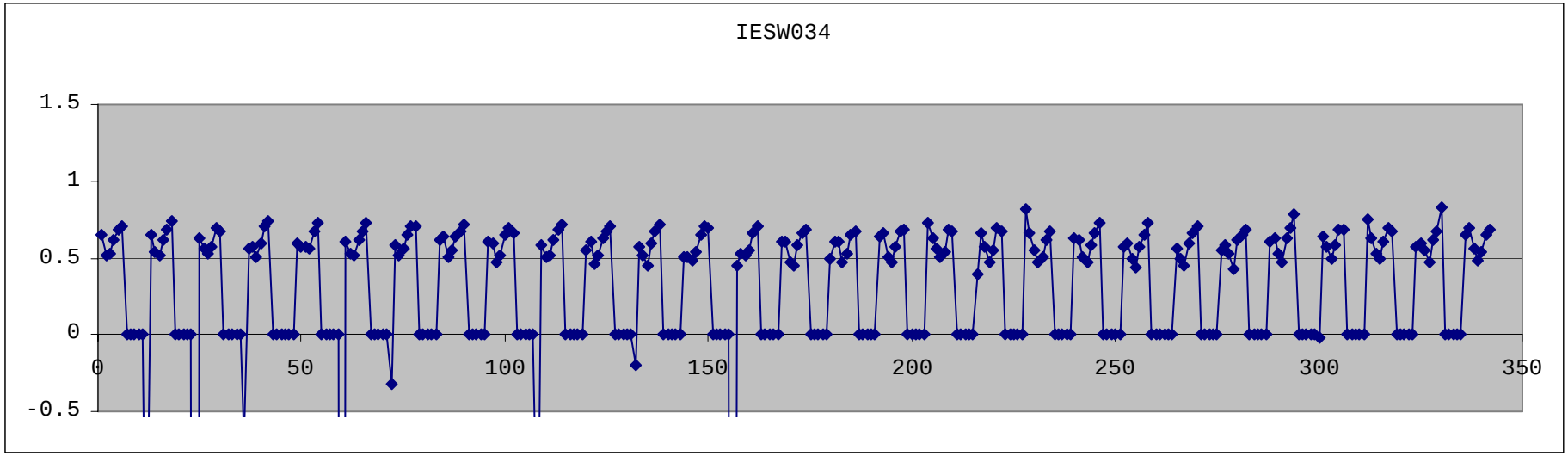

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_034_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:50 PM

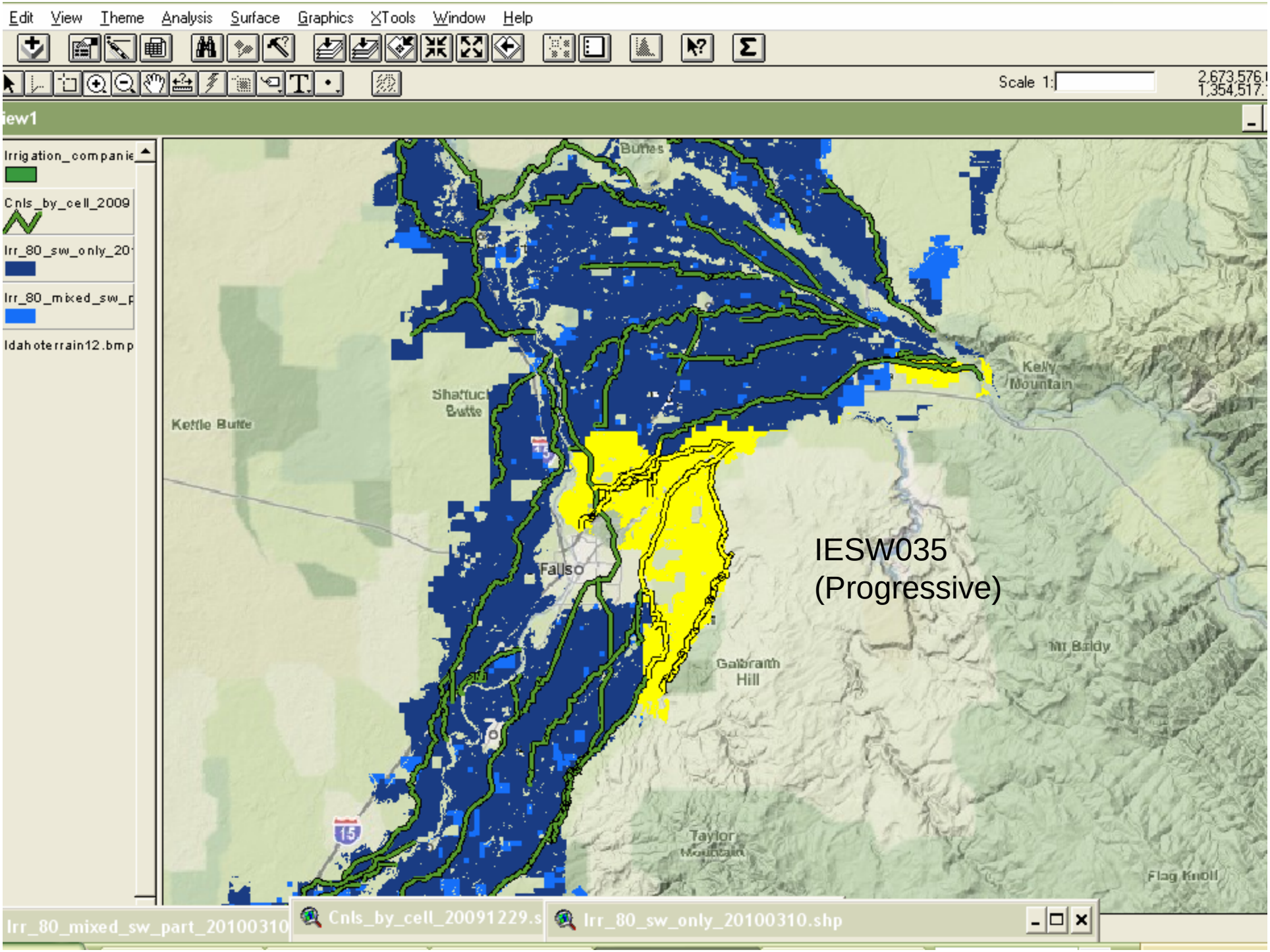
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 1 | 1 | 6 | 15 | 0 | 0 | 0 |
| 0.5-<0.6 | 5 | 11 | 22 | 14 | 16 | 0 | 0 |
| 0.6-<0.7 | 7 | 17 | 1 | 0 | 13 | 26 | 12 |
| 0.7-<0.8 | 2 | 0 | 0 | 0 | 0 | 3 | 16 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

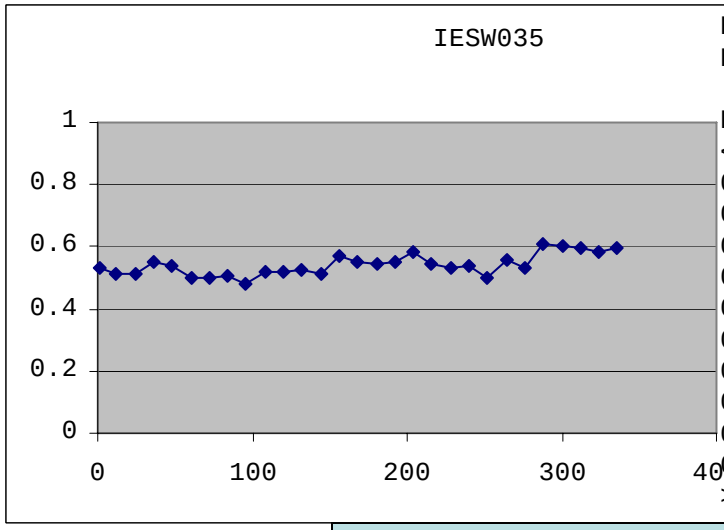
$$CF_{div} = 1.54\ (0.60) - 0.54 = 0.42$$

BEFORE RED
Entity IESW034

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 21513.87 | 2854.817 | 12006.26 | 0 | 24368.68 | 0.237777 |
| Irr_86 | 0 | 18563.31 | 2579.605 | 10919.96 | 0 | 21142.91 | 0.236228 |
| Irr_92 | 0 | 21126.1 | 2765.486 | 11601.74 | 0 | 23891.59 | 0.238368 |
| Irr_00 | 0 | 19277.95 | 2645.315 | 11136.32 | 0 | 21923.26 | 0.237539 |
| Irr_06 | 0 | 16396.9 | 2304.688 | 9787.484 | 0 | 18701.59 | 0.235473 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Buttes
Kelly Mountain
Shattuck Butte
Kettle Butte
Falls
IESW035
(Progressive)
Galbraith Hill
Mt Baldy
Taylor Mountain
Flag Knoll
15
Irr_80_mixed_sw_part_20100310
Cnls_by_cell_20091229.s
Irr_80_sw_only_20100310.shp



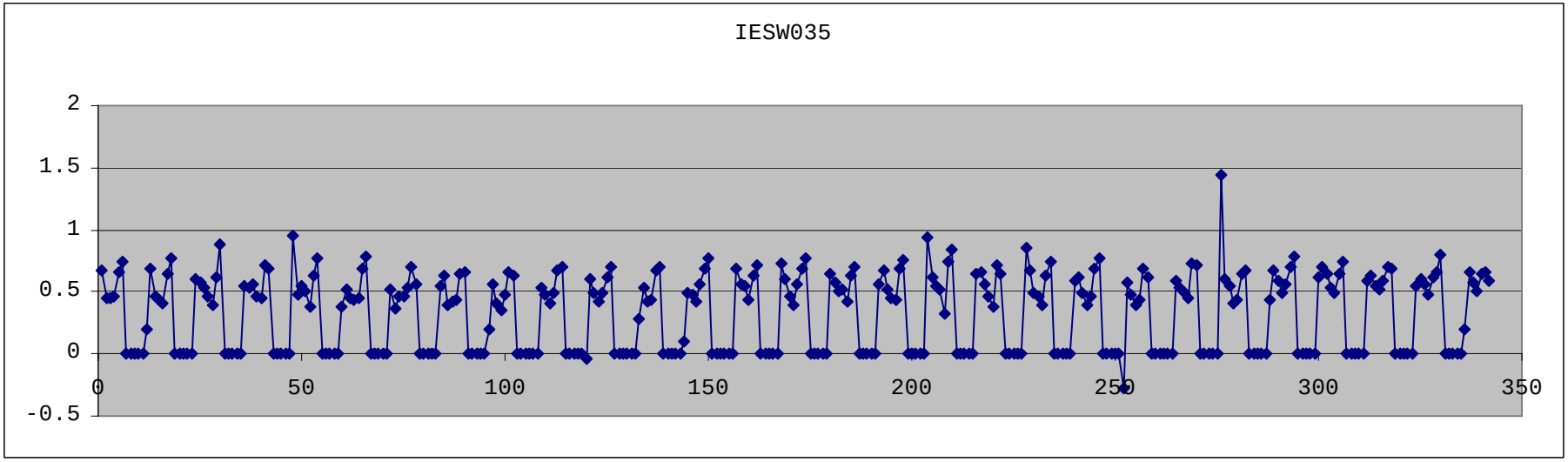

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_035_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

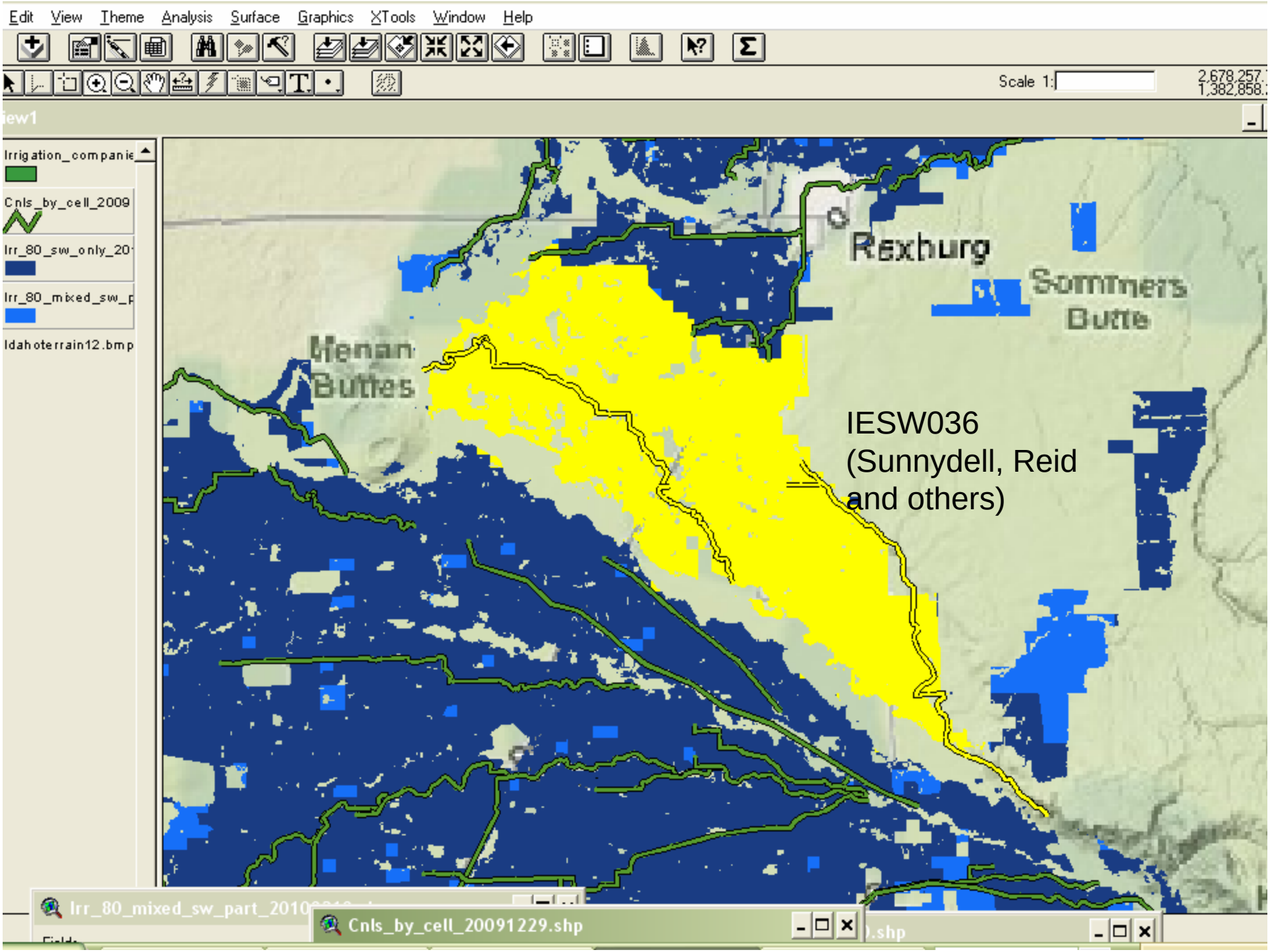
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 1 | 1 | 1 | 4 | 5 | 0 | 0 |
| 0.4-<0.5 | 1 | 2 | 12 | 18 | 17 | 0 | 0 |
| 0.5-<0.6 | 7 | 9 | 15 | 7 | 5 | 0 | 2 |
| 0.6-<0.7 | 4 | 15 | 1 | 0 | 2 | 23 | 10 |
| 0.7-<0.8 | 1 | 1 | 0 | 0 | 0 | 6 | 14 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 0.9-<1.0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

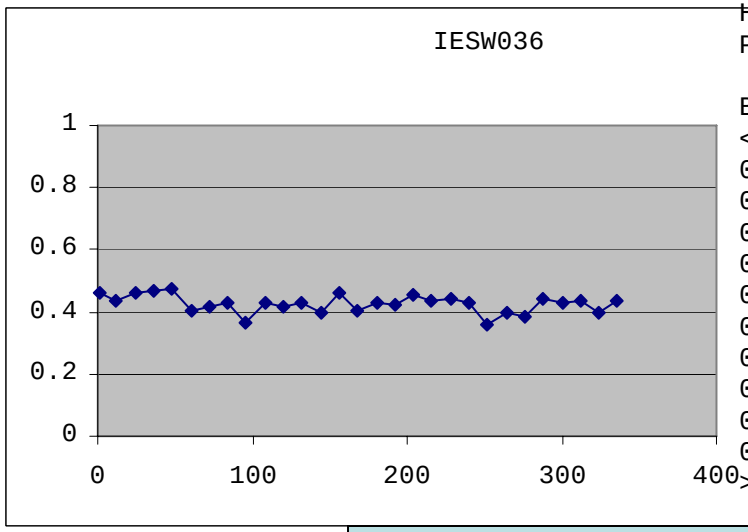
$$CF_{div} = 1.54\ (0.55) - 0.54 = 0.31$$

BEFORE RED
Entity IESW035

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 33110.33 | 646.138 | 2050.607 | 0 | 33756.47 | 0.315096 |
| Irr_86 | 0 | 31188.9 | 536.944 | 1764.306 | 0 | 31725.84 | 0.304337 |
| Irr_92 | 0 | 31265.58 | 533.934 | 1816.548 | 0 | 31799.52 | 0.293928 |
| Irr_00 | 0 | 29665.7 | 511.806 | 1669.041 | 0 | 30177.5 | 0.306647 |
| Irr_06 | 0 | 23550.65 | 325.533 | 1129.388 | 0 | 23876.18 | 0.288238 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Rexburg
Sommers Butte
Menan Buttes
IESW036
(Sunnydell, Reid
and others)
Irr_80_mixed_sw_part_2010
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_036_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 8 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0-<0.1 | 3 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 6 | 4 | 0 | 0 |
| 0.3-<0.4 | 1 | 1 | 10 | 18 | 18 | 0 | 0 |
| 0.4-<0.5 | 1 | 10 | 18 | 5 | 5 | 6 | 1 |
| 0.5-<0.6 | 1 | 18 | 1 | 0 | 1 | 22 | 7 |
| 0.6-<0.7 | 0 | 0 | 0 | 0 | 0 | 1 | 14 |
| 0.7-<0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 0.8-<0.9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 |

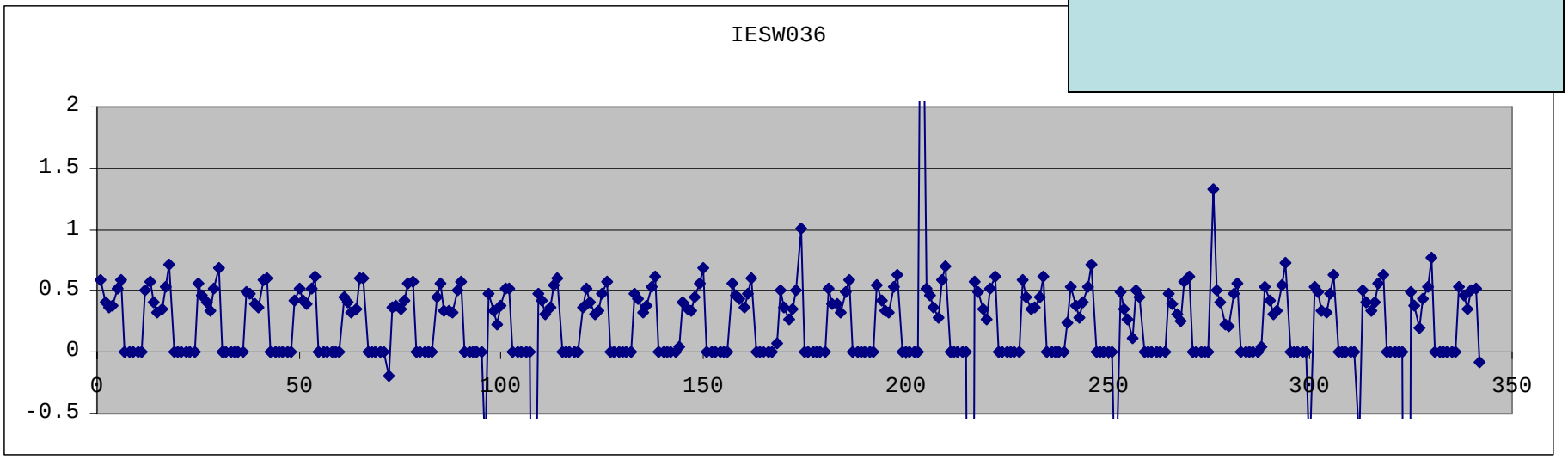
IESW036

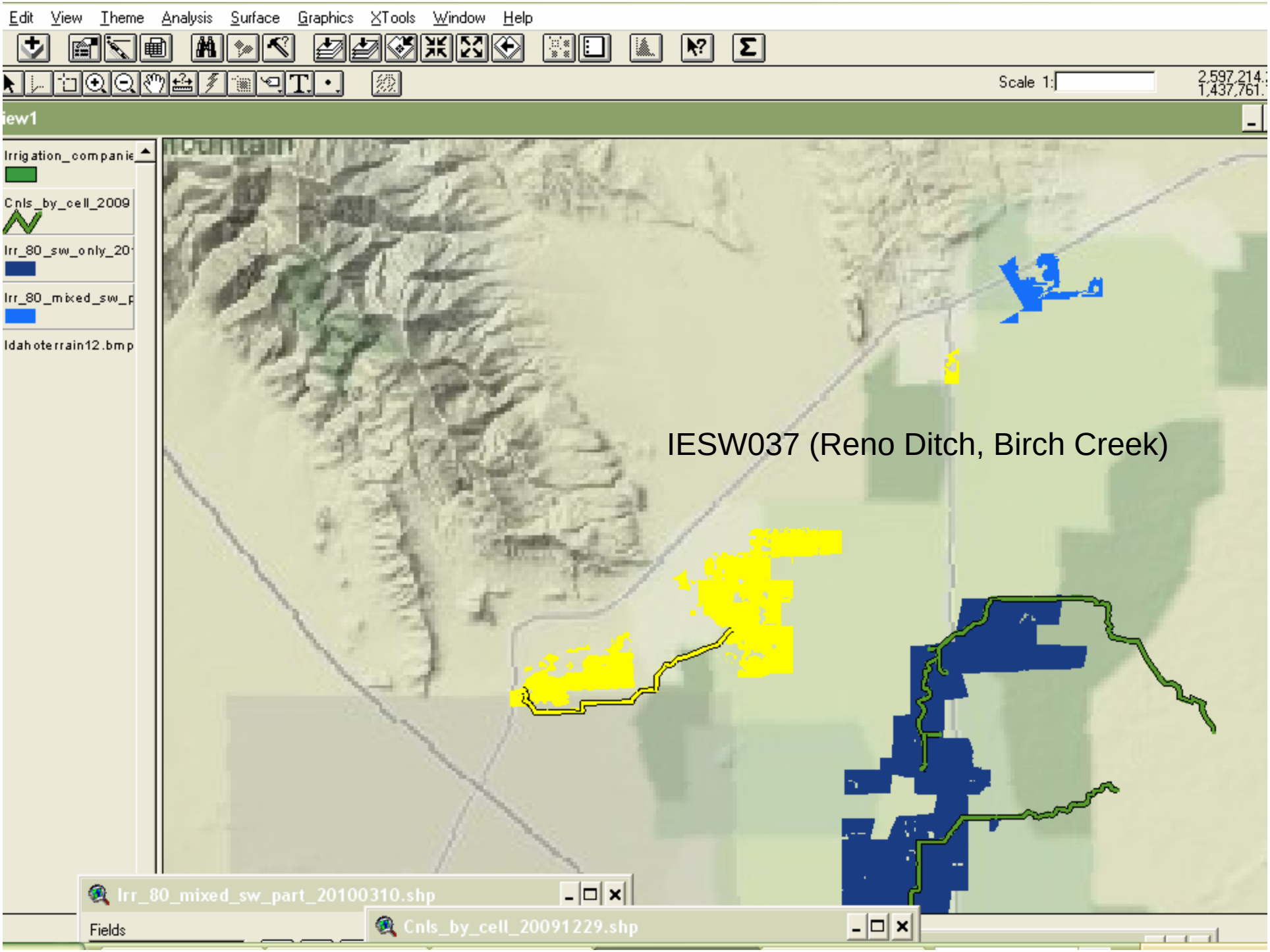
$$CF_{div} = 1.54\ (0.45) - 0.54 = 0.15$$

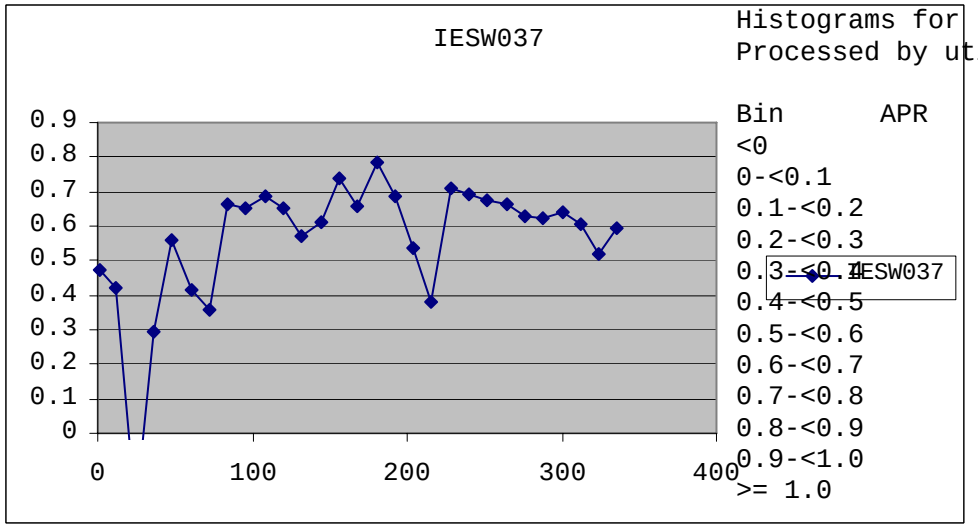
BEFORE RED
Entity IESW036

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 22063.89 | 477.062 | 1621.341 | 0 | 22540.95 | 0.294239 |
| Irr_86 | 0 | 20951.8 | 481.134 | 1571.431 | 0 | 21432.94 | 0.306176 |
| Irr_92 | 0 | 21631.49 | 468.063 | 1584.45 | 0 | 22099.56 | 0.29541 |
| Irr_00 | 0 | 22001.05 | 477.43 | 1539.961 | 0 | 22478.48 | 0.310027 |
| Irr_06 | 0 | 18247.26 | 379.779 | 1270.872 | 0 | 18627.04 | 0.298833 |

$CF_{div}$ seems low; consider reducing MixFrac.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
2,597,214.
1,437,761.
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW037 (Reno Ditch, Birch Creek)
Irr_80_mixed_sw_part_20100310.shp
Fields
Cnls_by_cell_20091229.shp



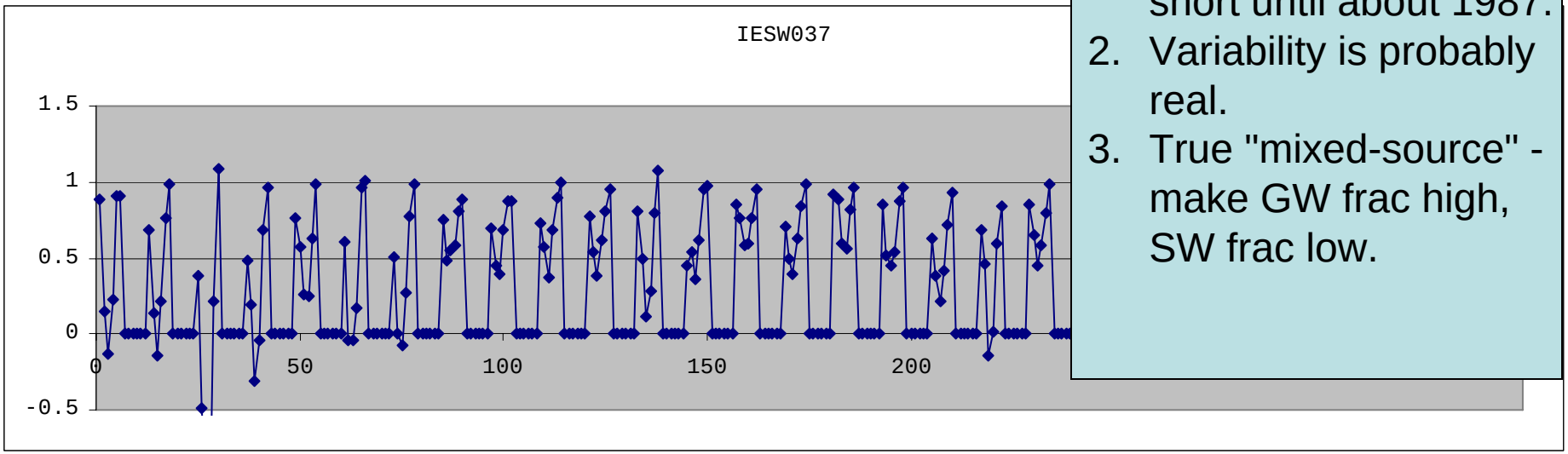

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_037_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 2 | 7 | 2 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 1 | 1 | 1 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 3 | 4 | 1 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 1 | 4 | 5 | 1 | 0 |
| 0.3-<0.4 | 0 | 1 | 3 | 6 | 1 | 0 | 0 |
| 0.4-<0.5 | 0 | 3 | 7 | 4 | 3 | 0 | 0 |
| 0.5-<0.6 | 0 | 1 | 9 | 3 | 9 | 1 | 0 |
| 0.6-<0.7 | 0 | 9 | 1 | 0 | 7 | 2 | 0 |
| 0.7-<0.8 | 0 | 7 | 1 | 0 | 0 | 7 | 0 |
| 0.8-<0.9 | 0 | 7 | 1 | 0 | 0 | 13 | 3 |
| 0.9-<1.0 | 0 | 1 | 0 | 0 | 0 | 5 | 22 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |

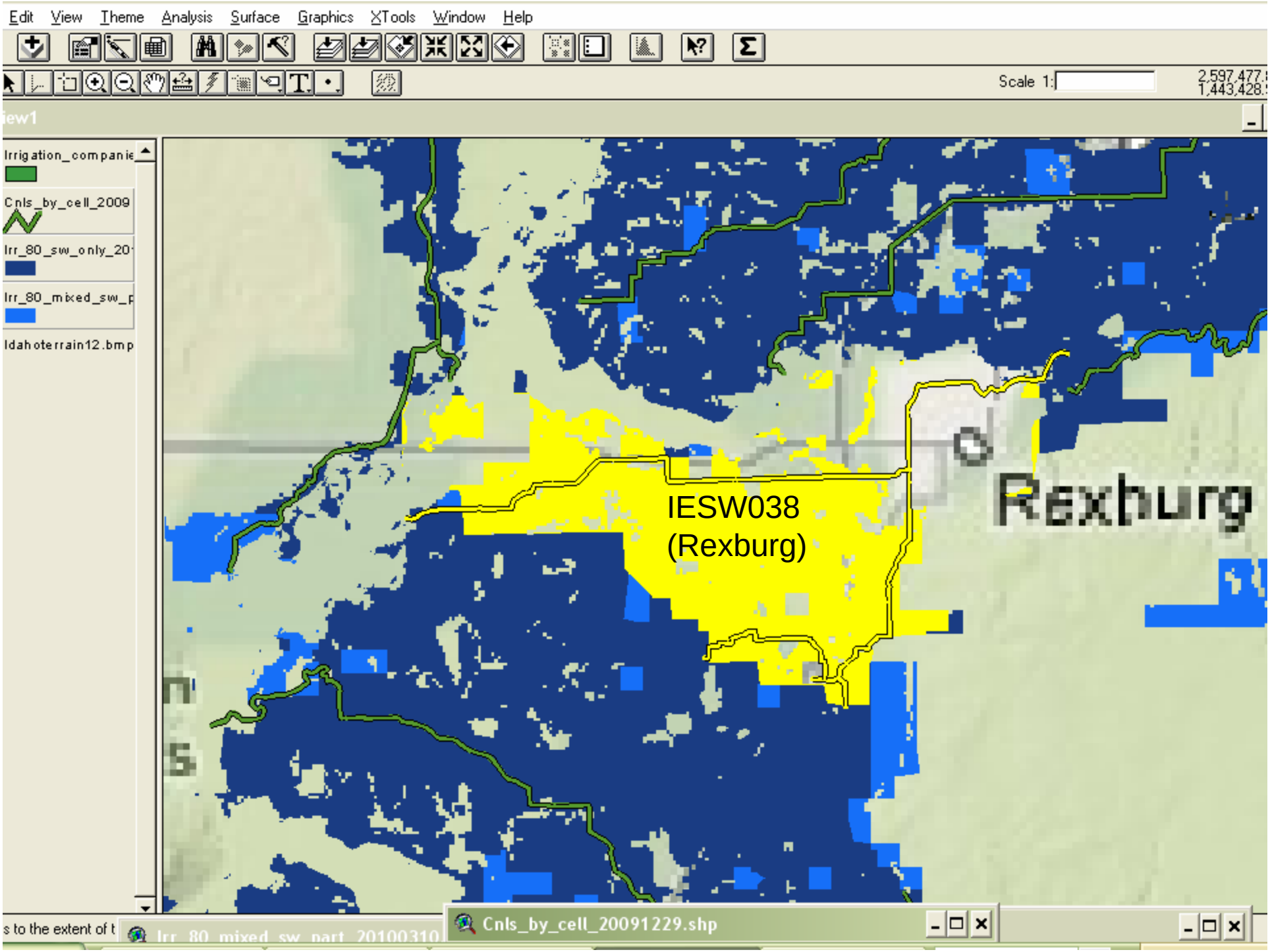
$$CF_{div} = 1.54\ (0.60) - 0.54 = 0.42$$

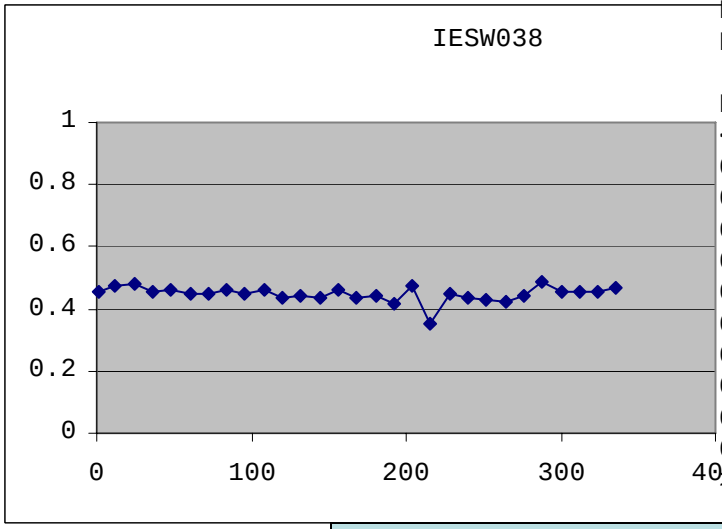
BEFORE RED
Entity IESW037

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 3139.764 | 117.323 | 938.532 | 0 | 3257.087 | 0.125007 |
| Irr_86 | 0 | 2128.029 | 109.006 | 876.299 | 0 | 2237.035 | 0.124394 |
| Irr_92 | 0 | 2406.379 | 101.244 | 791.385 | 0 | 2507.623 | 0.127933 |
| Irr_00 | 0 | 3344.667 | 115.576 | 928.109 | 0 | 3460.243 | 0.124528 |
| Irr_06 | 0 | 3520.592 | 115.841 | 929.87 | 0 | 3636.433 | 0.124578 |




1. Early years w/ low fraction make sense; company was water-short until about 1987.
2. Variability is probably real.
3. True "mixed-source" - make GW frac high, SW frac low.


Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW038
(Rexburg)
Rexburg
Cnls_by_cell_20091229.shp



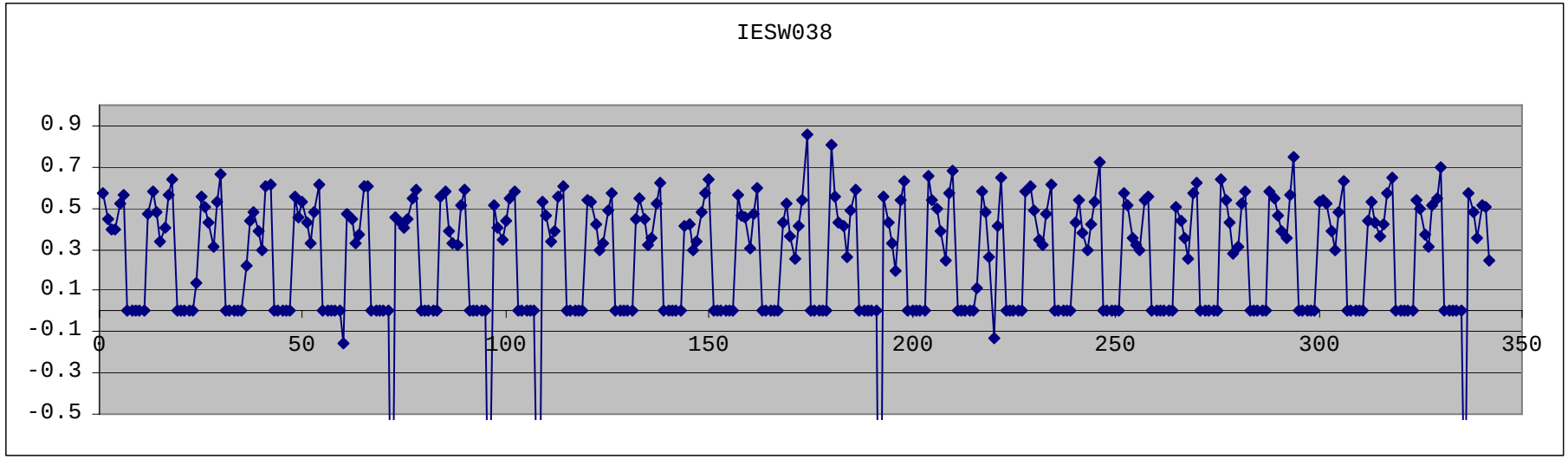

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_038_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

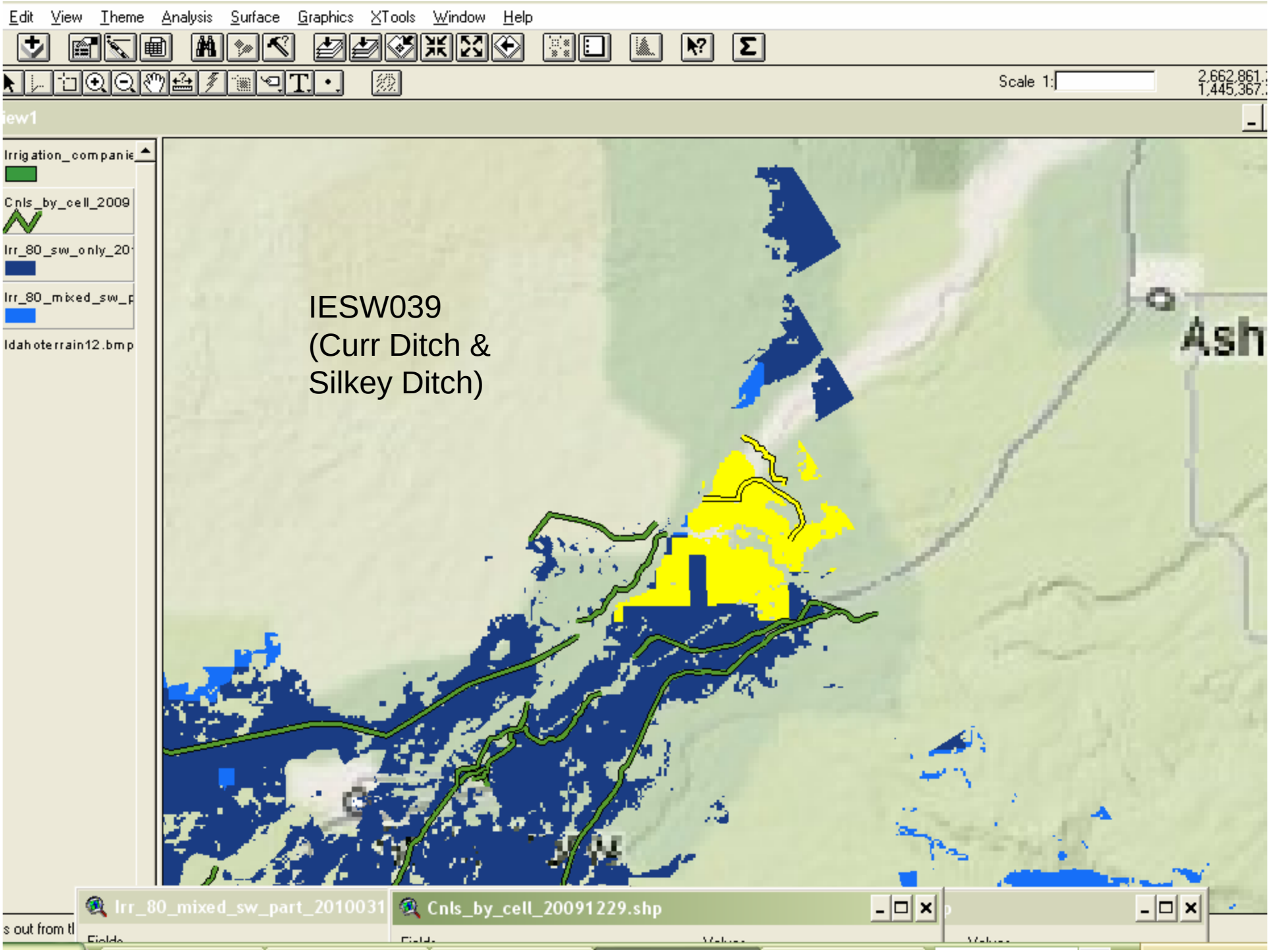
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 6 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 2 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 1 | 5 | 6 | 0 | 1 |
| 0.3-<0.4 | 0 | 0 | 5 | 19 | 12 | 0 | 0 |
| 0.4-<0.5 | 6 | 6 | 20 | 5 | 7 | 7 | 0 |
| 0.5-<0.6 | 8 | 22 | 3 | 0 | 2 | 20 | 9 |
| 0.6-<0.7 | 2 | 1 | 0 | 0 | 0 | 2 | 16 |
| 0.7-<0.8 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

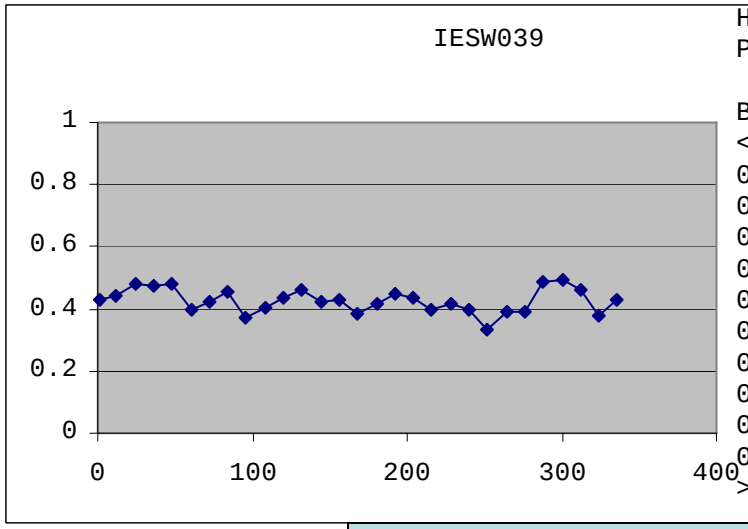
$$CF_{div} = 1.54\ (0.50) - 0.54 = 0.42$$

BEFORE RED
Entity IESW038

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 5125.523 | 12.289 | 96.49 | 0 | 5137.812 | 0.12736 |
| Irr_86 | 0 | 4619.963 | 9.364 | 80.769 | 0 | 4629.327 | 0.115936 |
| Irr_92 | 0 | 5487.511 | 12.24 | 96.51 | 0 | 5499.751 | 0.126826 |
| Irr_00 | 0 | 5111.217 | 10.257 | 79.115 | 0 | 5121.474 | 0.129647 |
| Irr_06 | 0 | 4246.773 | 7.425 | 52.505 | 0 | 4254.198 | 0.141415 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW039
(Curr Ditch &
Silkey Ditch)
Ash
Irr_80_mixed_sw_part_2010031
Cnls_by_cell_20091229.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_039_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

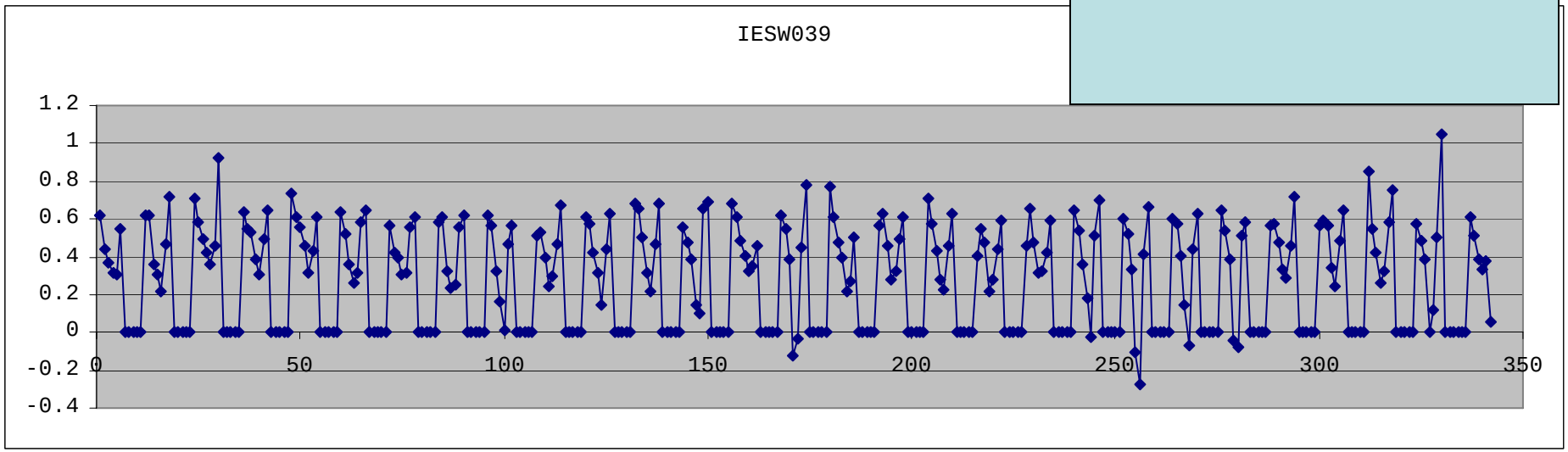
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 3 | 5 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 1 | 1 | 0 | 1 |
| 0.1-<0.2 | 0 | 0 | 0 | 4 | 3 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 7 | 9 | 1 | 0 |
| 0.3-<0.4 | 0 | 0 | 12 | 11 | 11 | 3 | 0 |
| 0.4-<0.5 | 2 | 3 | 12 | 3 | 0 | 18 | 1 |
| 0.5-<0.6 | 9 | 16 | 5 | 0 | 0 | 6 | 6 |
| 0.6-<0.7 | 11 | 10 | 0 | 0 | 0 | 1 | 15 |
| 0.7-<0.8 | 4 | 0 | 0 | 0 | 0 | 0 | 4 |
| 0.8-<0.9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.9-<1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |

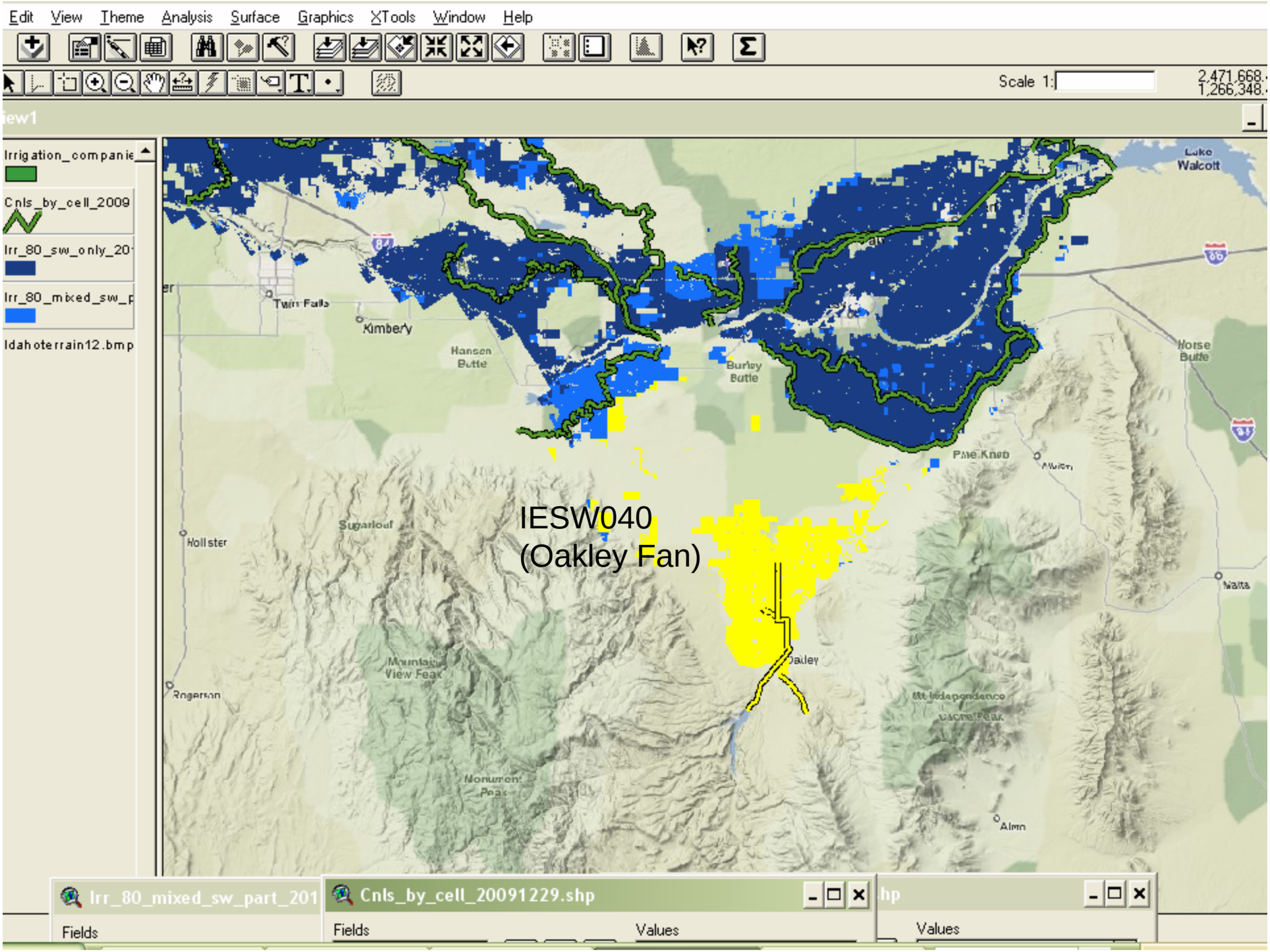
$$CF_{div} = 1.54\ (0.45) - 0.54 = 0.15$$

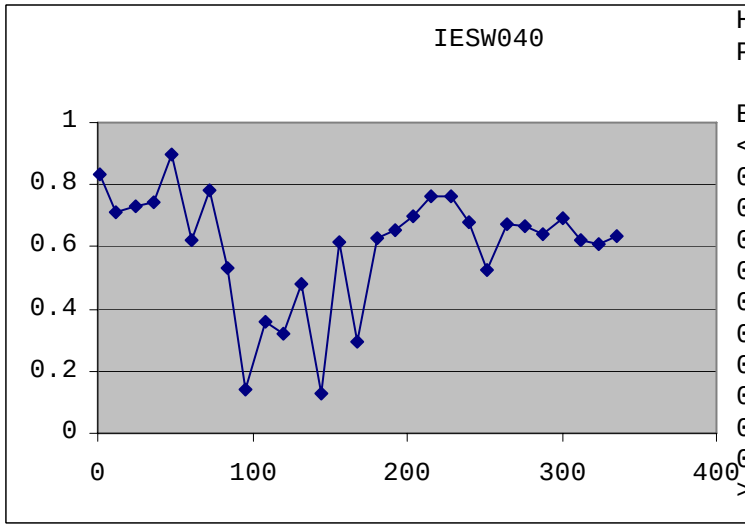
BEFORE RED
Entity IESW039

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 1674.942 | 180.048 | 395.999 | 0 | 1854.99 | 0.454668 |
| Irr_86 | 0 | 1919.149 | 248.938 | 625.225 | 0 | 2168.087 | 0.398157 |
| Irr_92 | 0 | 1672.208 | 231.709 | 589.478 | 0 | 1903.917 | 0.393075 |
| Irr_00 | 0 | 1897.36 | 245.406 | 619.066 | 0 | 2142.766 | 0.396413 |
| Irr_06 | 0 | 1112.613 | 233.543 | 594.293 | 0 | 1346.156 | 0.392976 |

This seems very low for this area; consider reducing MixFrac significantly.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
2,471,668.
1,266,348.
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Lake Walcott
Twin Falls
Kimberly
Hansen Butte
Burley Butte
Horse Butte
Pine Knob
Sugarloaf
Hollister
IESW040
(Oakley Fan)
Oakley
Mountain View Peak
Rogerson
Mt Independence
Eagle Peak
Monument Peak
Almo
Malta
Irr_80_mixed_sw_part_201
Fields
Cnls_by_cell_20091229.shp
Fields
Values
hp
Values




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_040_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 1 | 1 | 4 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 2 | 0 | 3 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 1 | 1 | 2 | 0 | 0 | 0 |
| 0.3-<0.4 | 0 | 1 | 3 | 1 | 1 | 0 | 0 |
| 0.4-<0.5 | 1 | 2 | 4 | 7 | 4 | 0 | 1 |
| 0.5-<0.6 | 3 | 4 | 8 | 8 | 2 | 1 | 0 |
| 0.6-<0.7 | 2 | 7 | 4 | 4 | 9 | 8 | 2 |
| 0.7-<0.8 | 6 | 6 | 3 | 2 | 10 | 8 | 5 |
| 0.8-<0.9 | 8 | 4 | 1 | 1 | 3 | 7 | 8 |
| 0.9-<1.0 | 5 | 0 | 0 | 0 | 0 | 5 | 12 |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |

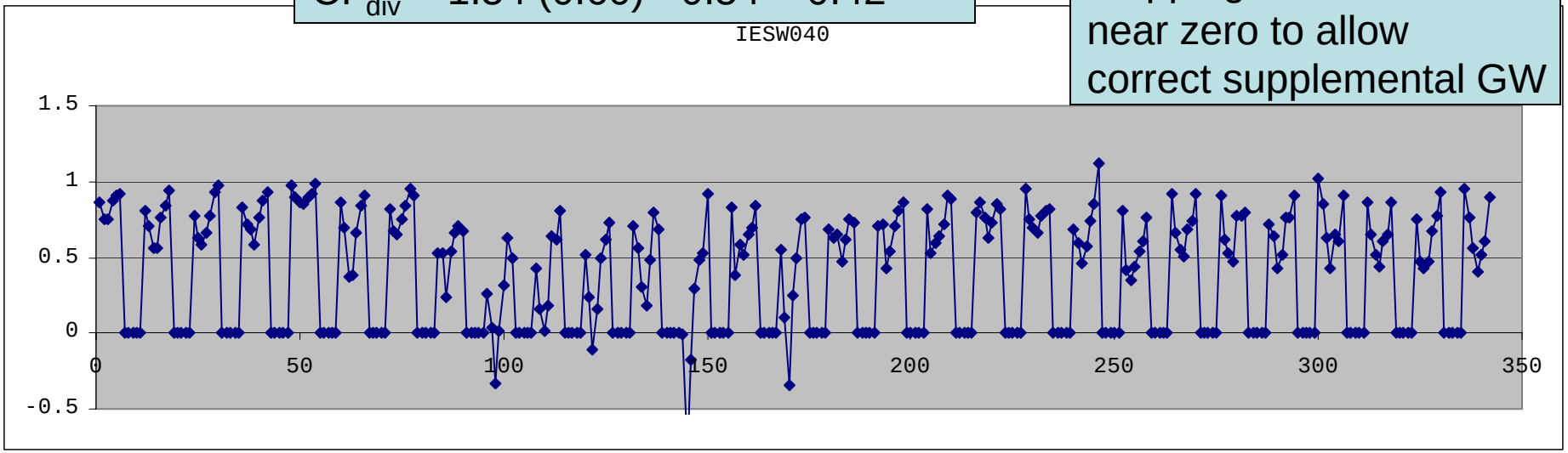
$$CF_{div} = 1.54\ (0.40) - 0.54 = 0.08$$

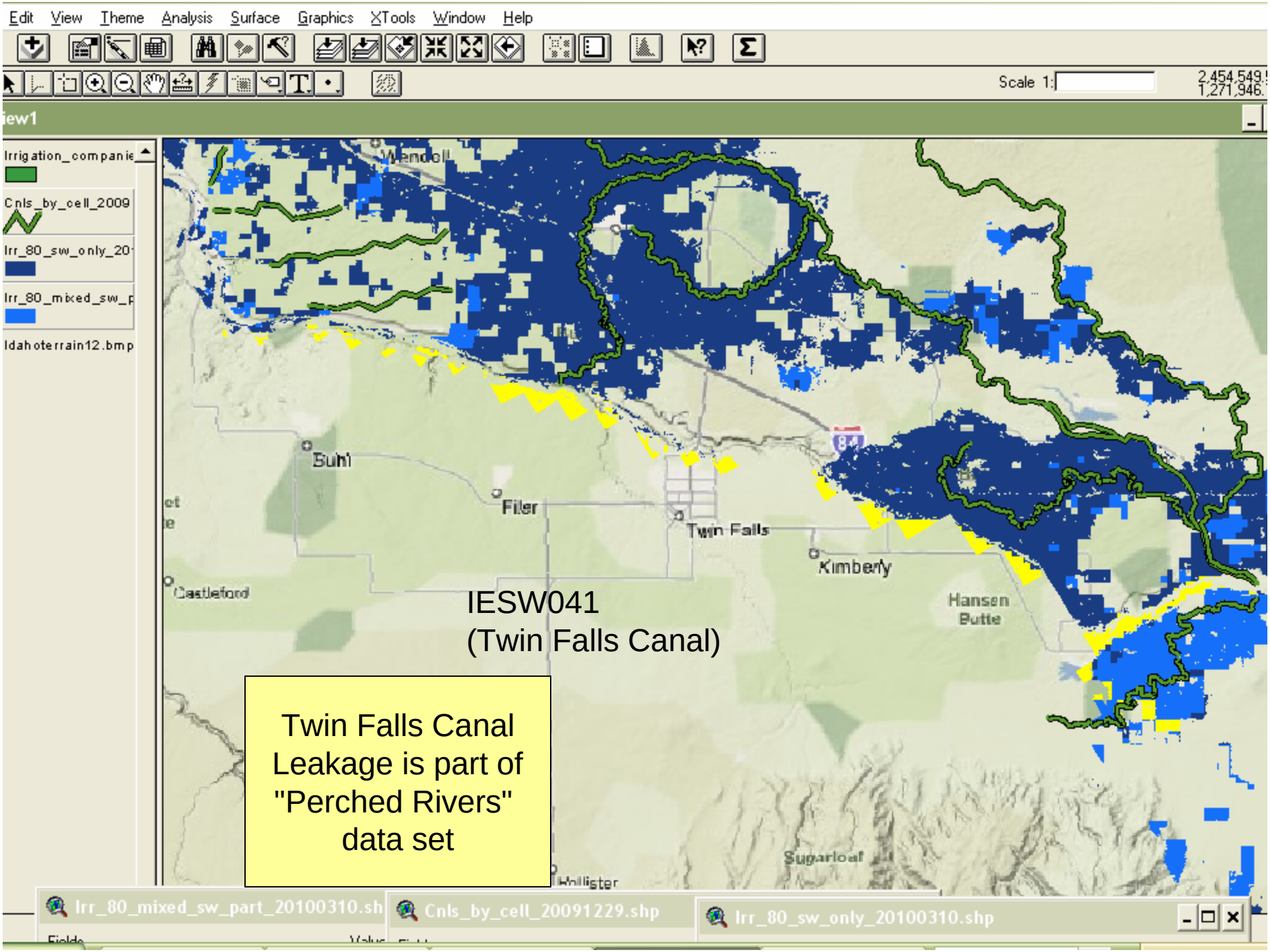
BEFORE RED
Entity IESW040

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 1793.194 | 4133.207 | 36007.59 | 0 | 5926.401 | 0.114787 |
| Irr_86 | 0 | 3587.539 | 4169.709 | 35905.55 | 0 | 7757.248 | 0.11613 |
| Irr_92 | 0 | 2896.656 | 3830.429 | 33479.35 | 0 | 6727.085 | 0.114412 |
| Irr_00 | 0 | 2522.678 | 3926.159 | 34008.23 | 0 | 6448.837 | 0.115447 |
| Irr_06 | 0 | 3240.833 | 4008.035 | 34334.49 | 0 | 7248.868 | 0.116735 |

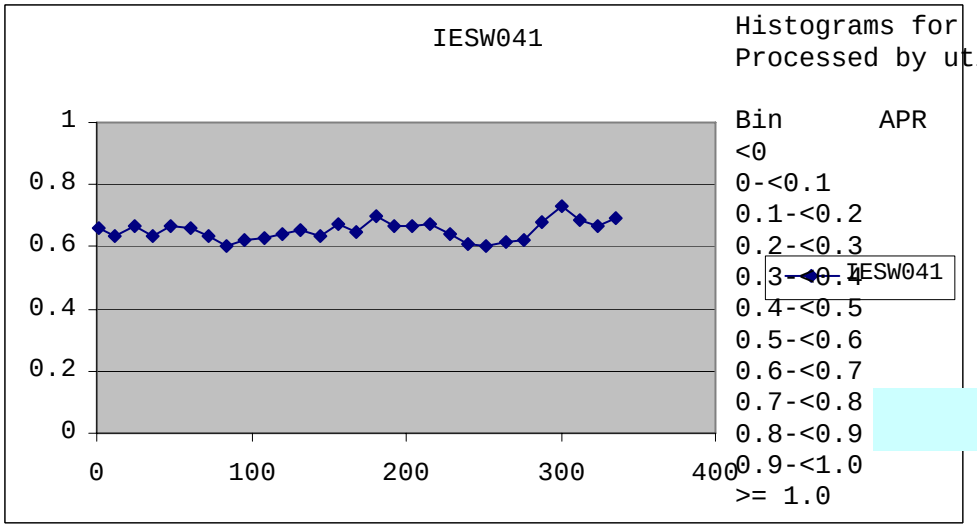
$$CF_{div} = 1.54\ (0.60) - 0.54 = 0.42$$

This is another entity like IESW008 where supplies do vary significantly. Consider dropping MixFrac to near zero to allow correct supplemental GW






Twin Falls Canal Leakage is part of "Perched Rivers" data set



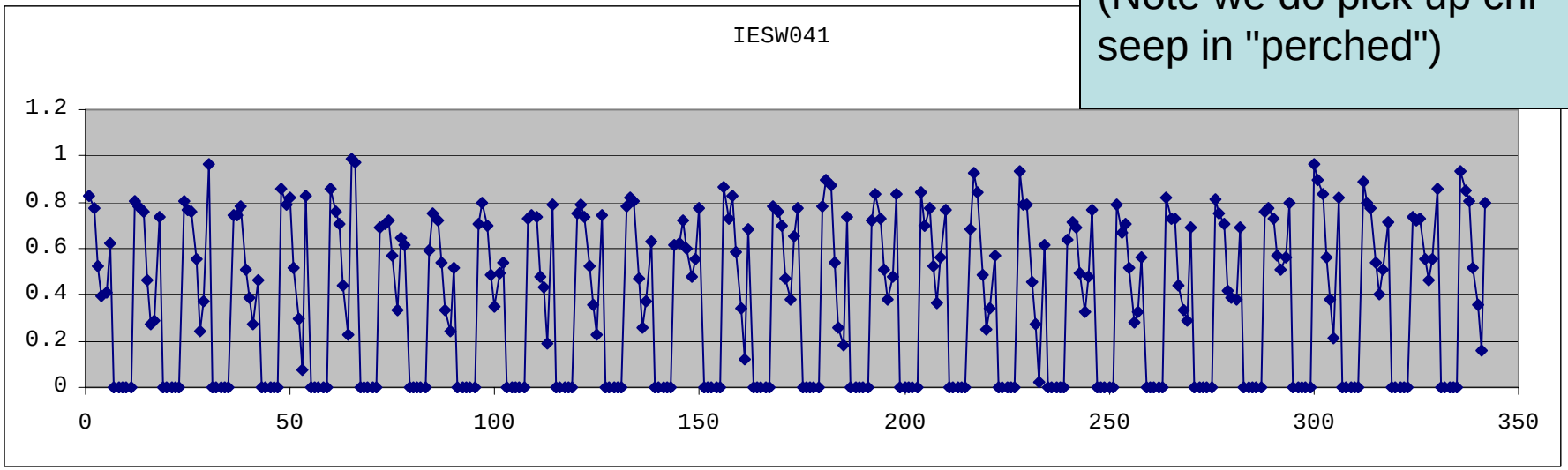

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_041_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

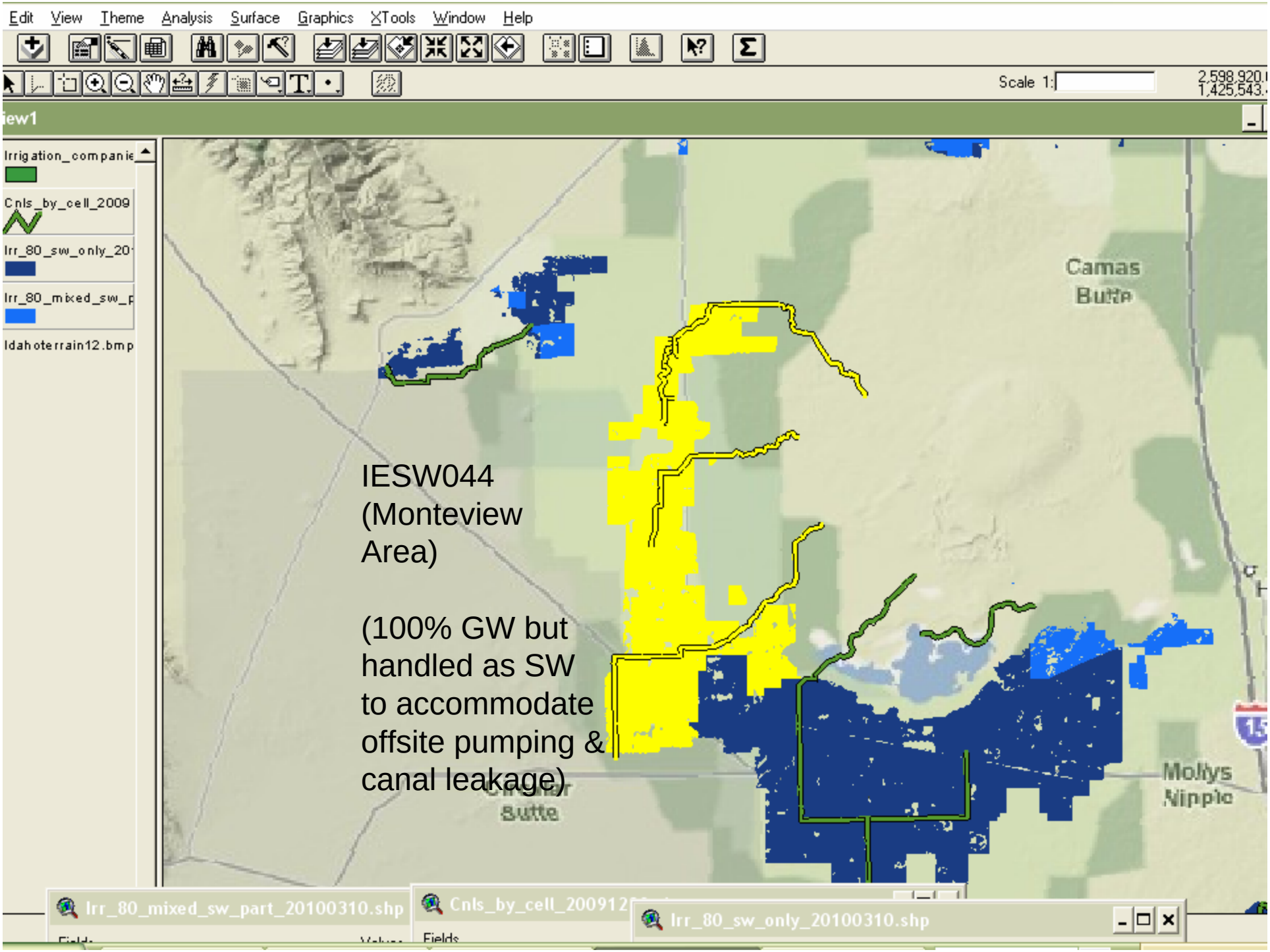
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT | |
|---|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 9 | 6 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 0 | 15 | 5 | 0 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 11 | 4 | 4 | 1 | 0 |
| 0.5-<0.6 | 1 | 0 | 0 | 18 | 1 | 5 | 4 | 0 |
| 0.6-<0.7 | 4 | 2 | 1 | 0 | 0 | 2 | 7 | 0 |
| 0.7-<0.8 | 11 | 19 | 21 | 0 | 0 | 0 | 10 | 0 |
| 0.8-<0.9 | 9 | 7 | 7 | 0 | 0 | 0 | 5 | 0 |
| 0.9-<1.0 | 3 | 1 | 0 | 0 | 0 | 1 | 2 | 0 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

BEFORE RED
Entity IESW041

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 5890.79 | 813.504 | 1623.85 | 0 | 6704.294 | 0.500972 |
| Irr_86 | 0 | 3851.1 | 650.848 | 1345.972 | 0 | 4501.948 | 0.483552 |
| Irr_92 | 0 | 3053.963 | 645.47 | 1374.468 | 0 | 3699.433 | 0.469614 |
| Irr_00 | 0 | 3408.504 | 676.127 | 1396.312 | 0 | 4084.631 | 0.484223 |
| Irr_06 | 0 | 3034.087 | 596.859 | 1242.352 | 0 | 3630.946 | 0.480427 |

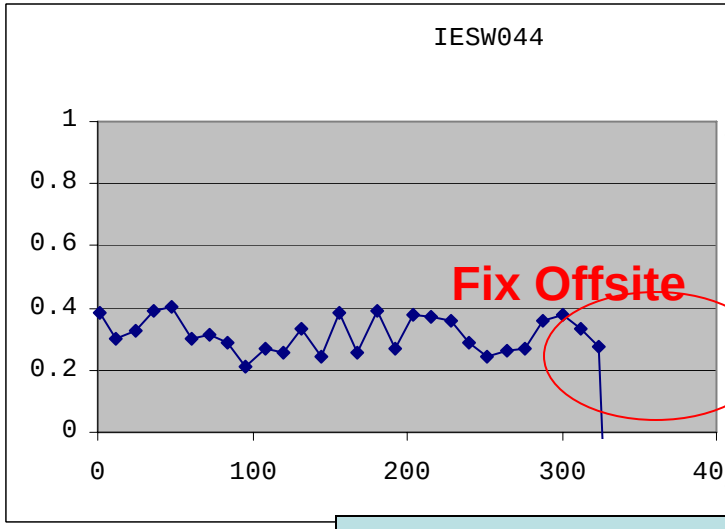
Consider folding this into IESW000 since we are estimating diversions anyway. (Note we do pick up cnl seep in "perched")






IESW044 (Monteview Area)

(100% GW but handled as SW to accommodate offsite pumping & canal leakage)




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_044_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

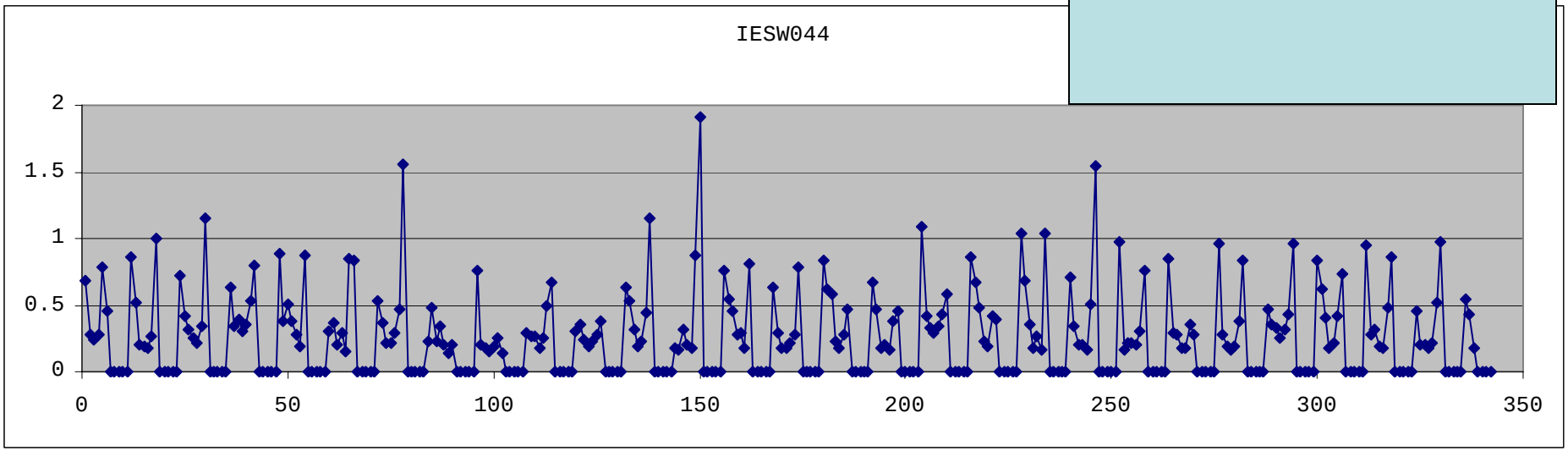
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 1 | 2 | 6 | 12 | 11 | 4 | 1 |
| 0.2-<0.3 | 2 | 7 | 10 | 13 | 14 | 5 | 2 |
| 0.3-<0.4 | 2 | 7 | 8 | 3 | 3 | 5 | 2 |
| 0.4-<0.5 | 2 | 5 | 3 | 0 | 0 | 8 | 3 |
| 0.5-<0.6 | 2 | 3 | 2 | 0 | 0 | 3 | 1 |
| 0.6-<0.7 | 4 | 5 | 0 | 0 | 0 | 0 | 1 |
| 0.7-<0.8 | 4 | 0 | 0 | 0 | 0 | 1 | 4 |
| 0.8-<0.9 | 6 | 0 | 0 | 0 | 0 | 2 | 5 |
| 0.9-<1.0 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| >= 1.0 | 2 | 0 | 0 | 0 | 0 | 0 | 6 |

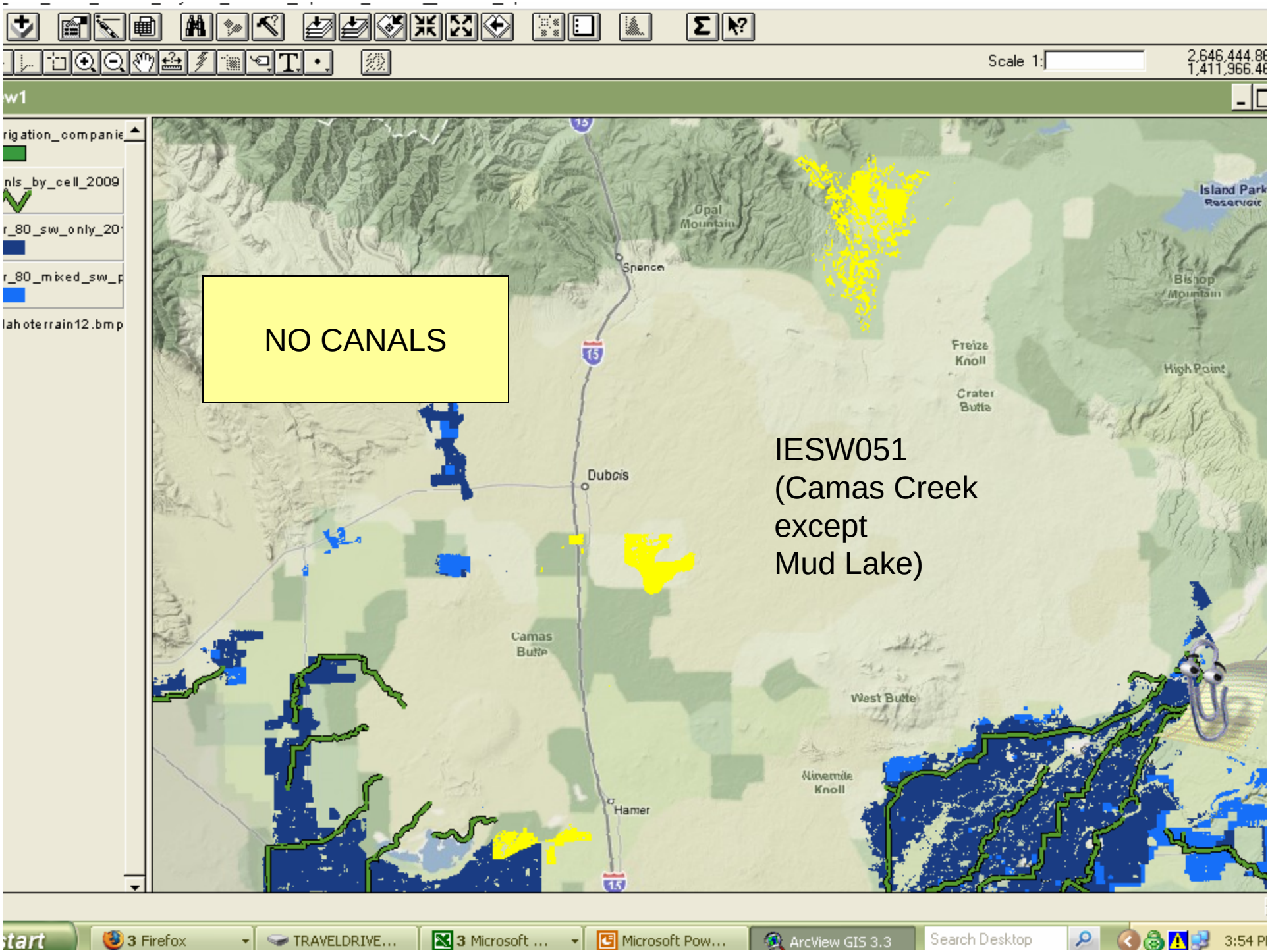
$CF_{div}$ = 1.54 (0.35) - 0.54 = zero

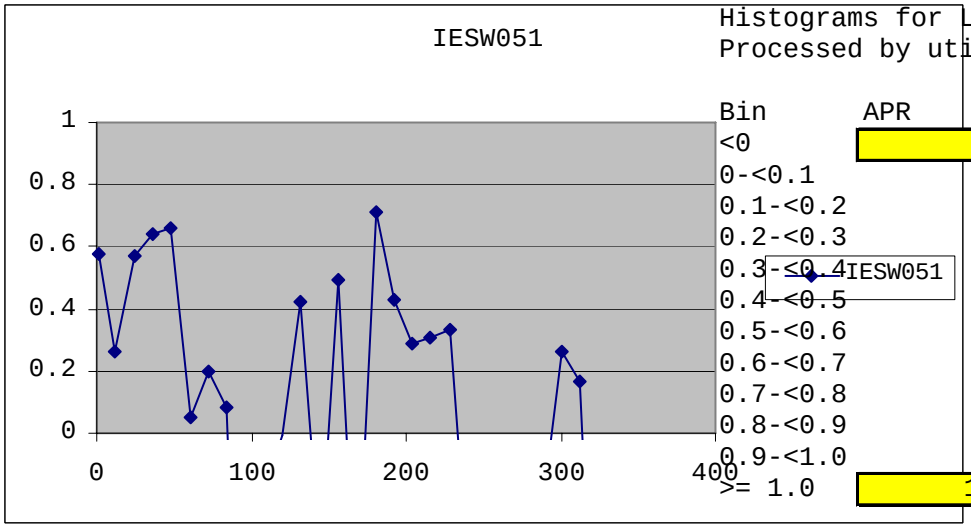
BEFORE RED
Entity IESW044

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 21255.94 | 0 | 0 | 0 | 21255.94 | - |
| Irr_86 | 0 | 20368.55 | 0 | 0 | 0 | 20368.55 | - |
| Irr_92 | 0 | 21419.38 | 0 | 0 | 0 | 21419.38 | - |
| Irr_00 | 0 | 20932.1 | 0 | 0 | 0 | 20932.1 | - |
| Irr_06 | 0 | 19826.4 | 0 | 0 | 0 | 19826.4 | - |

Consider ET Adjust. factors, along with adjacent IESW029




NO CANALS
IESW051
(Camas Creek
except
Mud Lake)
Spence
Dubois
Hamer
Opal Mountain
Island Park Reservoir
Bishop Mountain
Freize Knoll
Crater Butte
High Point
Camas Butte
West Butte
Ninemile Knoll
Scale 1:
rigation_companie
nls_by_cell_2009
r_80_sw_only_20
r_80_mixed_sw_p
lahoterrain12.bmp
3 Firefox
TRAVELDRIVE...
3 Microsoft ...
Microsoft Pow...
ArcView GIS 3.3
Search Desktop
3:54 PI



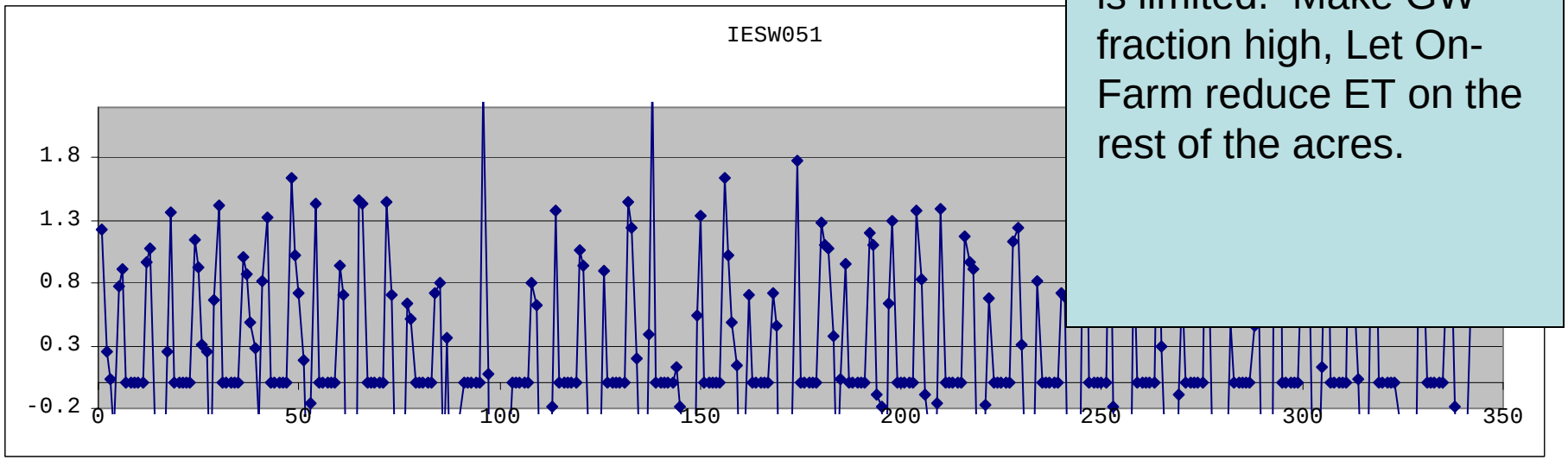

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_051_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

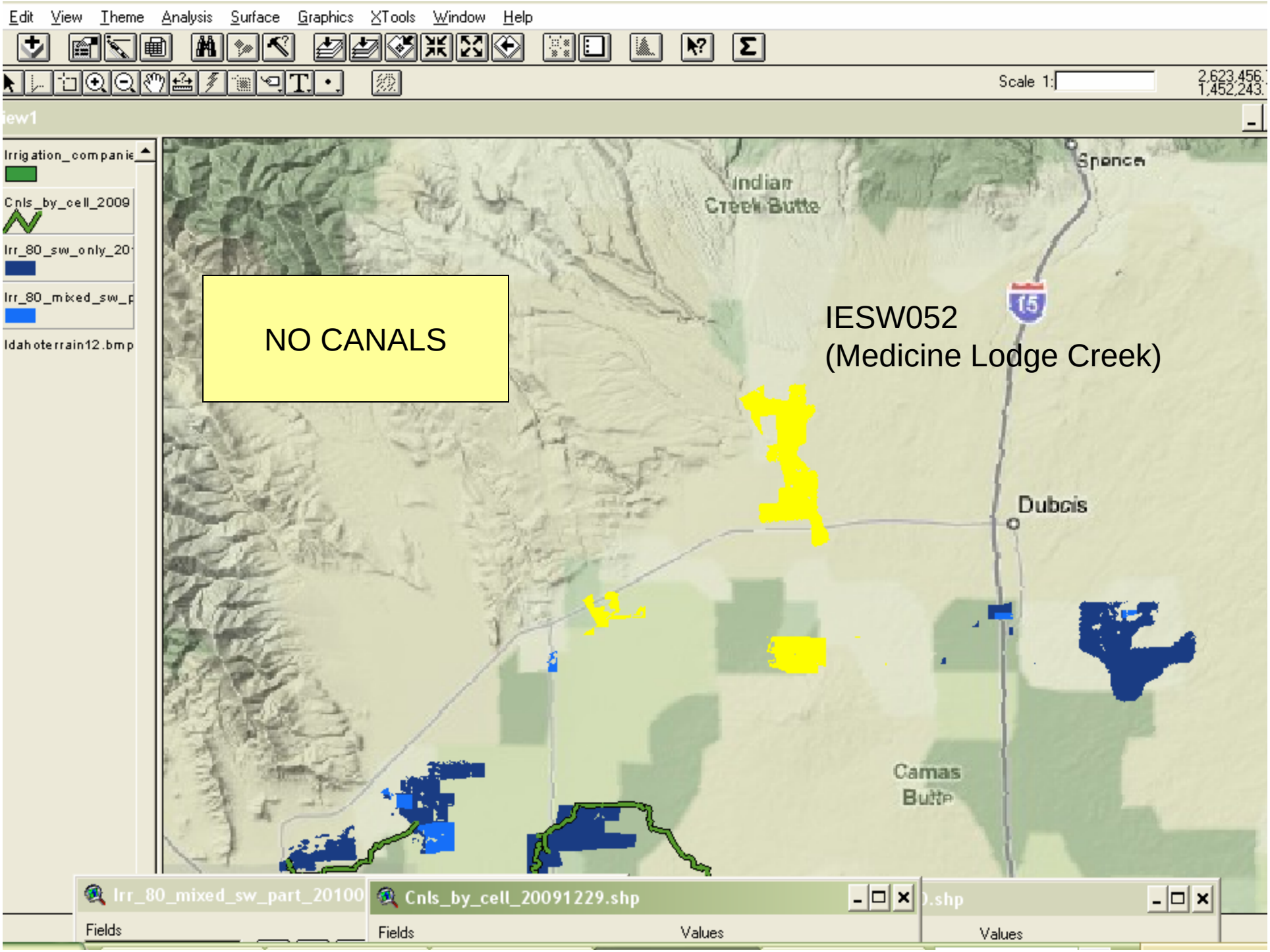
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 1 | 3 | 18 | 22 | 29 | 14 | 2 |
| 0-<0.1 | 0 | 1 | 1 | 1 | 0 | 1 | 0 |
| 0.1-<0.2 | 1 | 0 | 1 | 2 | 0 | 1 | 0 |
| 0.2-<0.3 | 0 | 1 | 1 | 2 | 0 | 1 | 0 |
| 0.3-<0.4 | 0 | 0 | 2 | 2 | 0 | 1 | 0 |
| 0.4-<0.5 | 1 | 1 | 2 | 0 | 0 | 0 | 1 |
| 0.5-<0.6 | 0 | 1 | 0 | 0 | 0 | 1 | 2 |
| 0.6-<0.7 | 0 | 3 | 1 | 0 | 0 | 4 | 1 |
| 0.7-<0.8 | 4 | 2 | 1 | 0 | 0 | 2 | 2 |
| 0.8-<0.9 | 1 | 3 | 0 | 0 | 0 | 2 | 2 |
| 0.9-<1.0 | 2 | 3 | 1 | 0 | 0 | 1 | 2 |
| >= 1.0 | 18 | 11 | 1 | 0 | 0 | 1 | 17 |

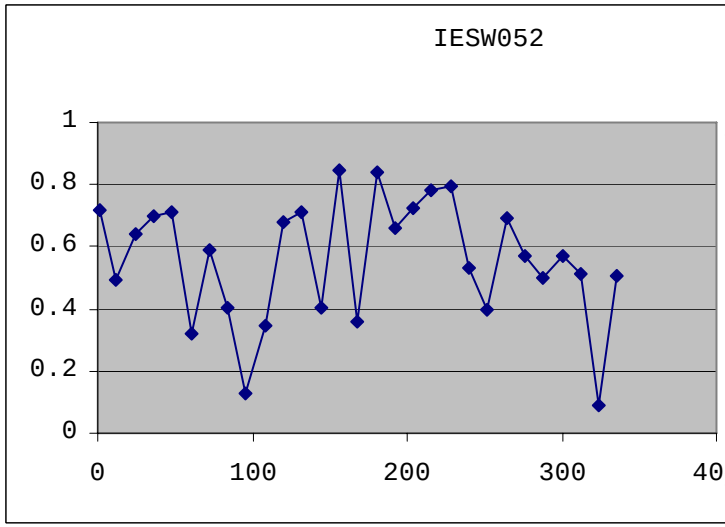
BEFORE RED
Entity IESW051

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 14896.72 | 672.842 | 2921.45 | 0 | 15569.56 | 0.230311 |
| Irr_86 | 0 | 25299.79 | 480.009 | 2420.037 | 0 | 25779.79 | 0.198348 |
| Irr_92 | 0 | 13253.06 | 430.744 | 2556.417 | 0 | 13683.8 | 0.168495 |
| Irr_00 | 0 | 17305.77 | 356.493 | 2555.933 | 0 | 17662.26 | 0.139477 |
| Irr_06 | 0 | 18066.98 | 458.771 | 2574.038 | 0 | 18525.75 | 0.17823 |

This high variability is real. Unlike other similar entities, supplemental GW is limited. Make GW fraction high, Let On-Farm reduce ET on the rest of the acres.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
NO CANALS
IESW052
(Medicine Lodge Creek)
Indian
Creek Butte
Spence
15
Dubois
Camas
Butte
Irr_80_mixed_sw_part_20100
Fields
Cnls_by_cell_20091229.shp
Fields
Values
Values



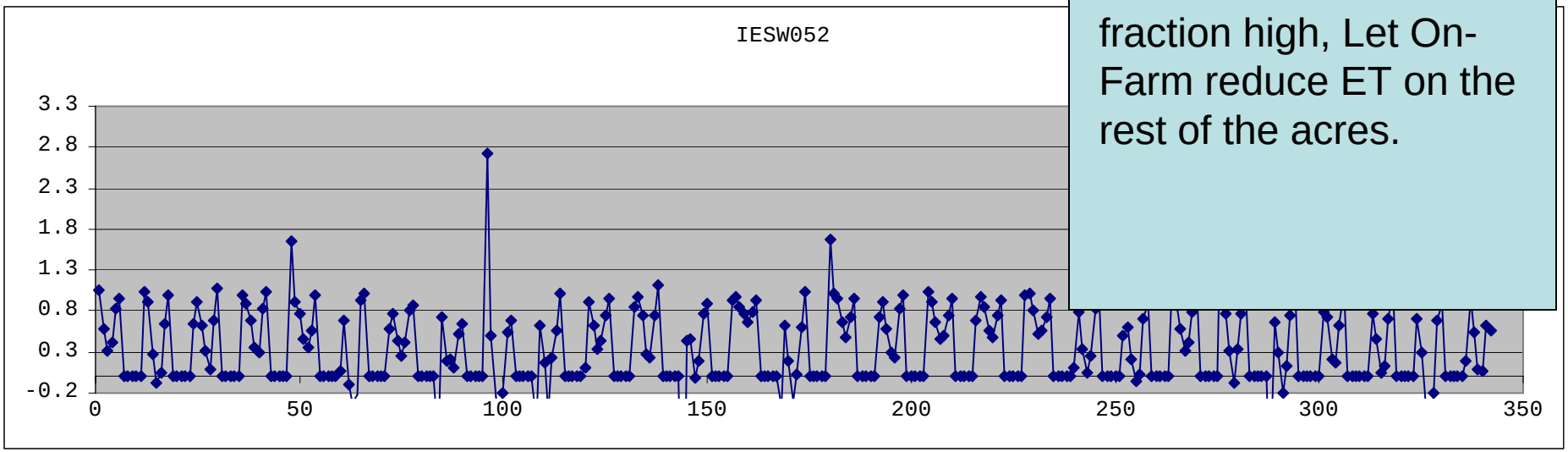

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_052_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

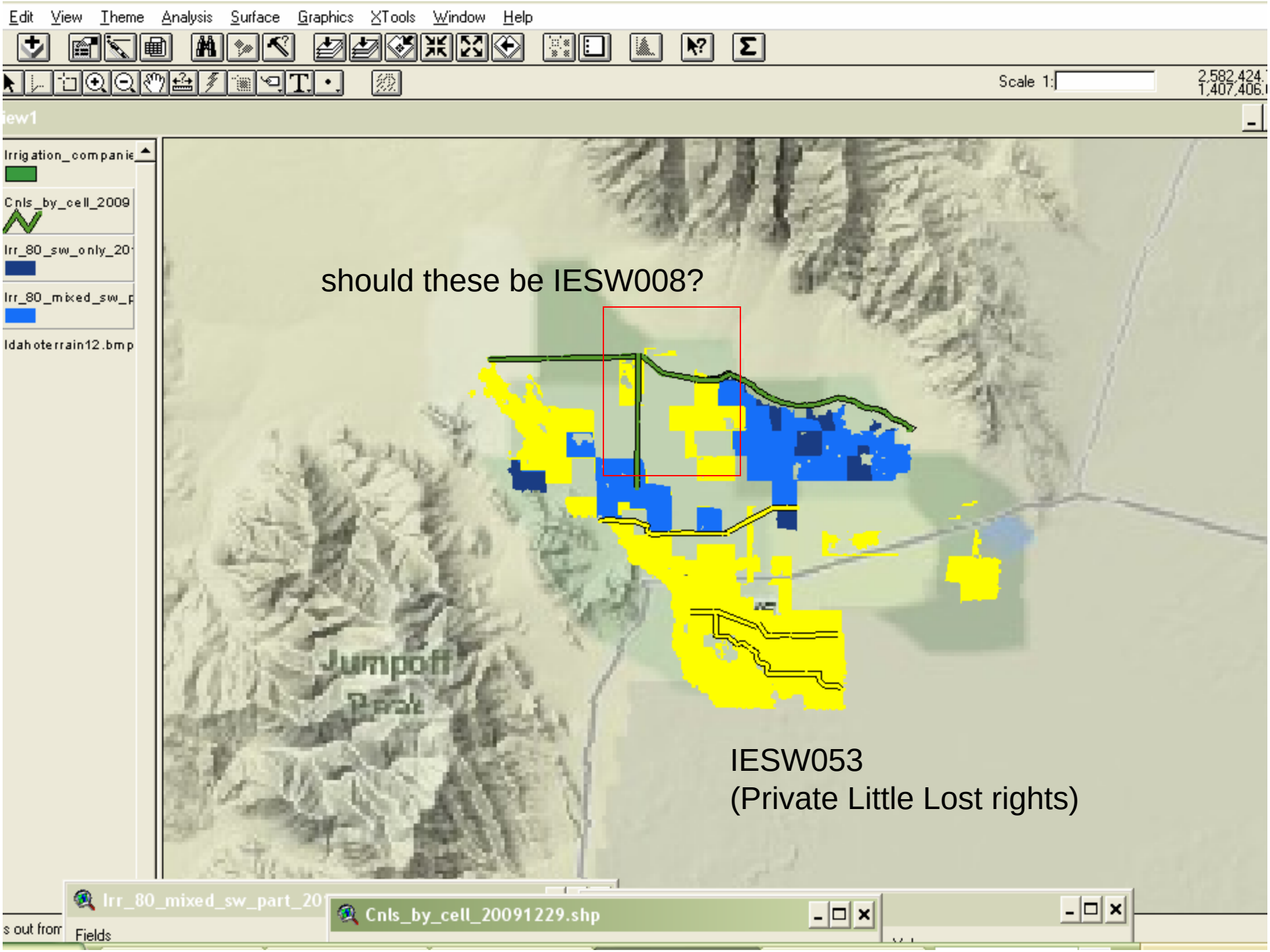
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 5 | 0 | 3 | 10 | 3 | 0 | 0 |
| 0-<0.1 | 1 | 0 | 0 | 3 | 5 | 0 | 0 |
| 0.1-<0.2 | 3 | 0 | 2 | 0 | 5 | 0 | 0 |
| 0.2-<0.3 | 0 | 1 | 4 | 5 | 5 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 2 | 5 | 2 | 0 | 0 |
| 0.4-<0.5 | 1 | 2 | 3 | 2 | 7 | 0 | 0 |
| 0.5-<0.6 | 1 | 0 | 4 | 2 | 1 | 4 | 1 |
| 0.6-<0.7 | 2 | 5 | 4 | 1 | 1 | 7 | 2 |
| 0.7-<0.8 | 2 | 6 | 3 | 1 | 0 | 12 | 0 |
| 0.8-<0.9 | 1 | 2 | 3 | 0 | 0 | 5 | 3 |
| 0.9-<1.0 | 3 | 10 | 1 | 0 | 0 | 1 | 13 |
| >= 1.0 | 7 | 3 | 0 | 0 | 0 | 0 | 10 |

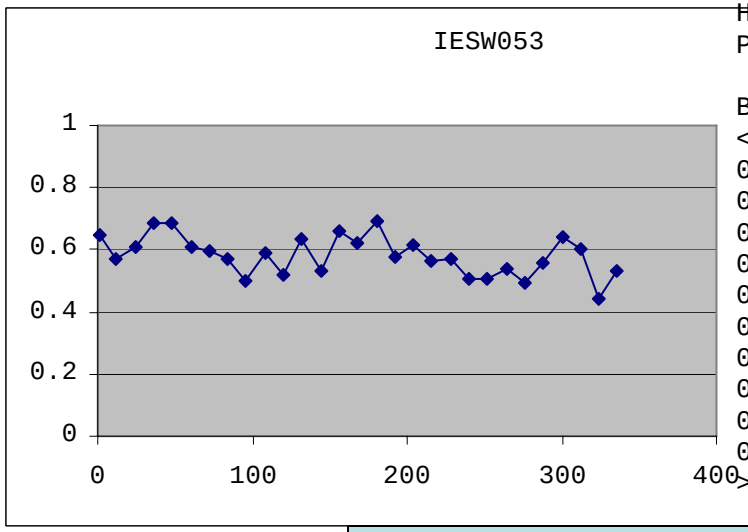
BEFORE RED
Entity IESW052

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 3664.413 | 1259.612 | 2504.164 | 0 | 4924.025 | 0.503007 |
| Irr_86 | 0 | 2943.268 | 1059.213 | 2069.933 | 0 | 4002.481 | 0.511714 |
| Irr_92 | 0 | 1467.929 | 878.653 | 1880.779 | 0 | 2346.582 | 0.467175 |
| Irr_00 | 0 | 1468.438 | 1080.284 | 2177.256 | 0 | 2548.722 | 0.496168 |
| Irr_06 | 0 | 1970.565 | 1228.554 | 2409.118 | 0 | 3199.119 | 0.50996 |

This high variability is real. Unlike other similar entities, supplemental GW is limited. Make GW fraction high, Let On-Farm reduce ET on the rest of the acres.




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
should these be IESW008?
Jumpoff
Park
IESW053
(Private Little Lost rights)
Irr_80_mixed_sw_part_20
Cnls_by_cell_20091229.shp
Fields




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_053_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

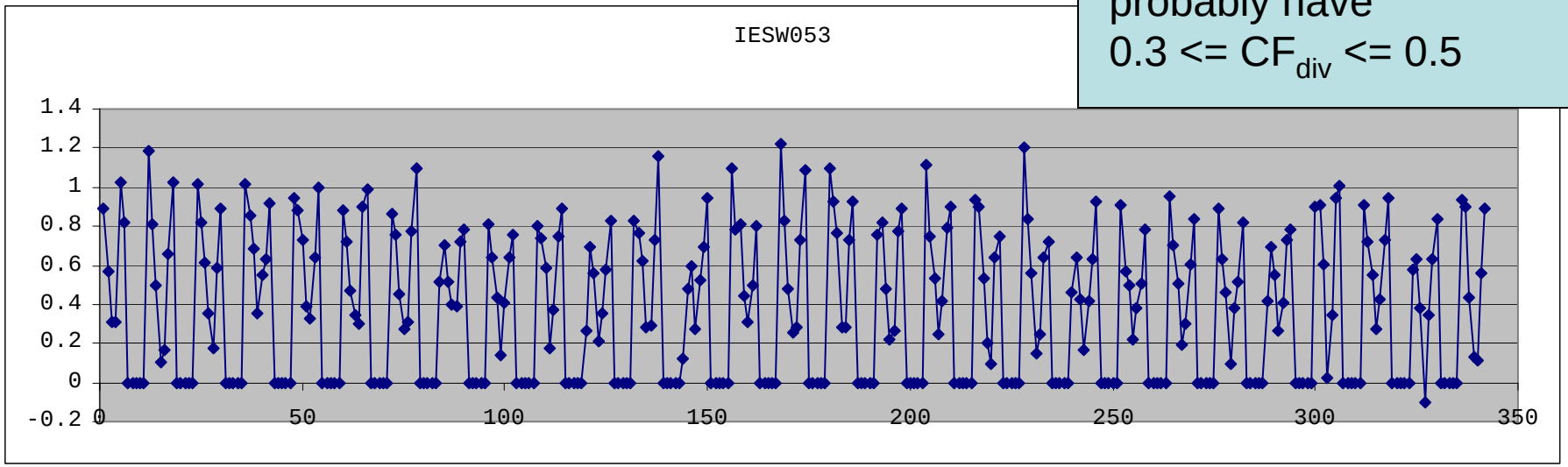
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 0.1-<0.2 | 1 | 0 | 0 | 7 | 3 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 12 | 6 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 1 | 6 | 12 | 0 | 0 |
| 0.4-<0.5 | 2 | 1 | 10 | 1 | 5 | 1 | 0 |
| 0.5-<0.6 | 2 | 1 | 11 | 0 | 2 | 5 | 0 |
| 0.6-<0.7 | 0 | 7 | 4 | 0 | 0 | 10 | 0 |
| 0.7-<0.8 | 1 | 8 | 2 | 0 | 0 | 10 | 6 |
| 0.8-<0.9 | 7 | 9 | 1 | 0 | 0 | 1 | 10 |
| 0.9-<1.0 | 6 | 3 | 0 | 0 | 0 | 1 | 7 |
| >= 1.0 | 8 | 0 | 0 | 0 | 0 | 1 | 6 |

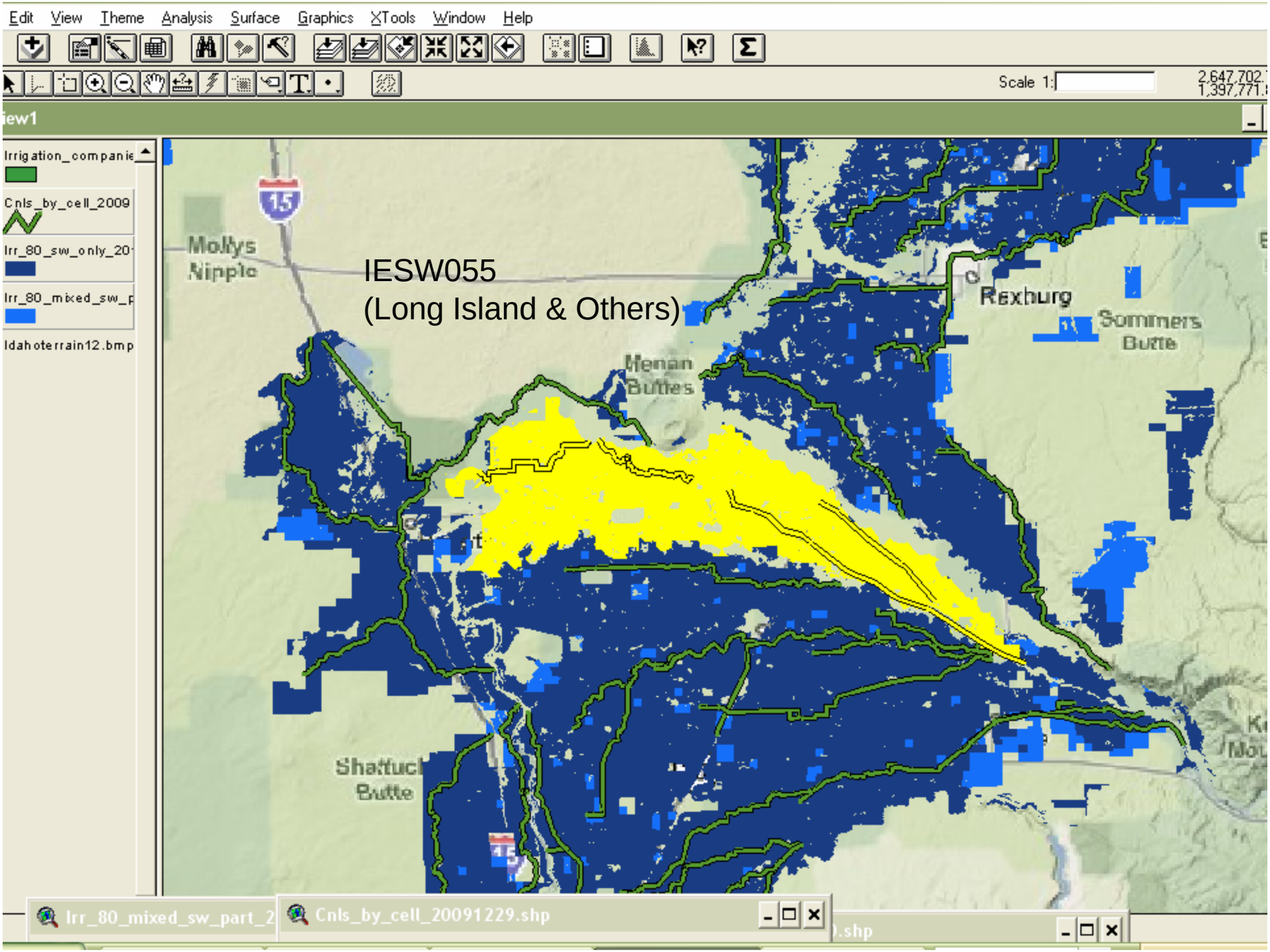
$$CF_{div} = 1.54\ (0.60) - 0.54 = 0.42$$

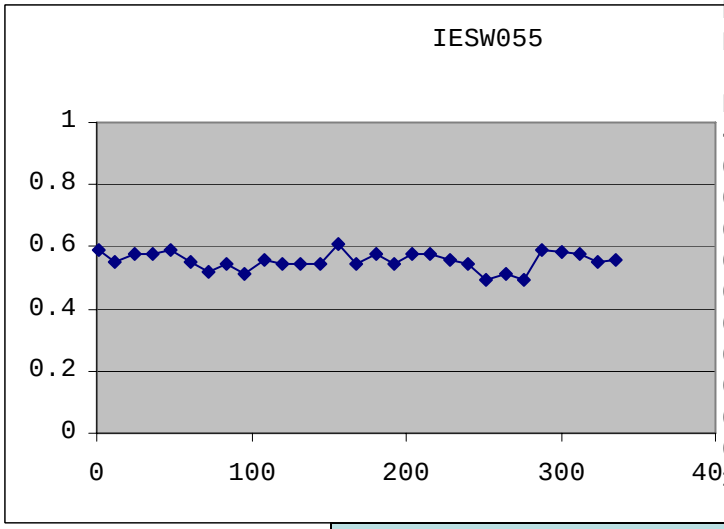
BEFORE RED
Entity IESW053

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 1824.132 | 1816.96 | 7484.529 | 0 | 3641.092 | 0.242762 |
| Irr_86 | 0 | 1520.48 | 1784.395 | 7035.166 | 0 | 3304.875 | 0.253639 |
| Irr_92 | 0 | 1453.358 | 2004.99 | 7884.623 | 0 | 3458.348 | 0.254291 |
| Irr_00 | 0 | 1642.733 | 2123.628 | 8289.563 | 0 | 3766.361 | 0.256181 |
| Irr_06 | 0 | 1570.447 | 2037.239 | 7785.438 | 0 | 3607.686 | 0.261673 |

Lands circled in Red should be in IESW008, this will change MixFrac. Final outcome should probably have $0.3 <= CF_{div} <= 0.5$




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW055
(Long Island & Others)
Mollys Nipple
Menan Buttes
Rexburg
Sommers Butte
Shattuck Butte
Irr_80_mixed_sw_part_2
Cnls_by_cell_20091229.shp



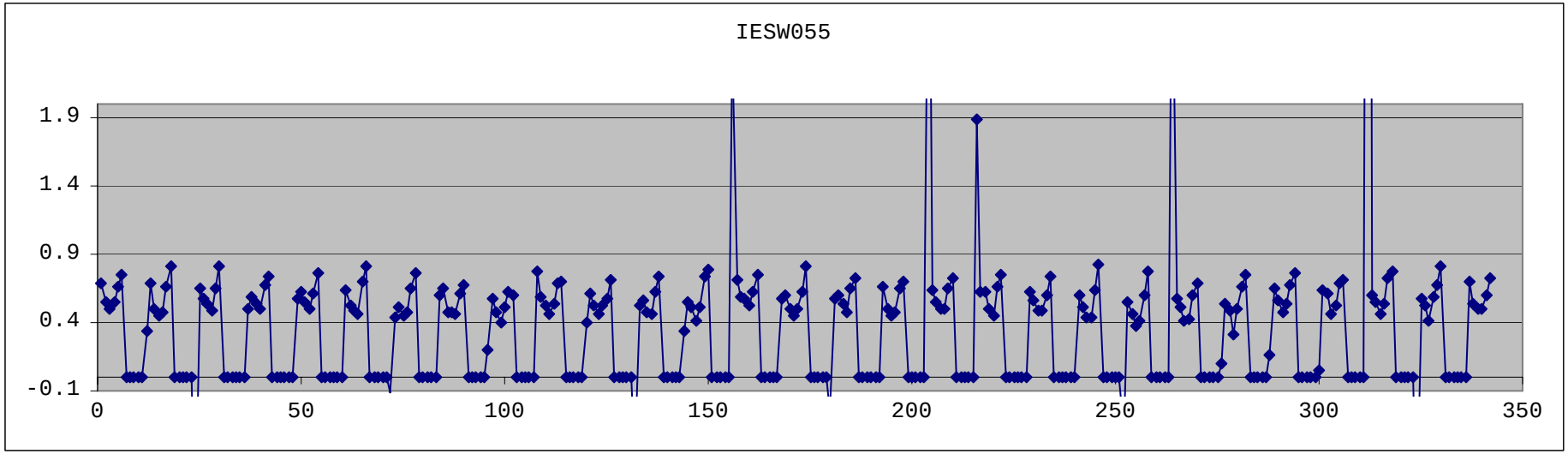

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_053_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

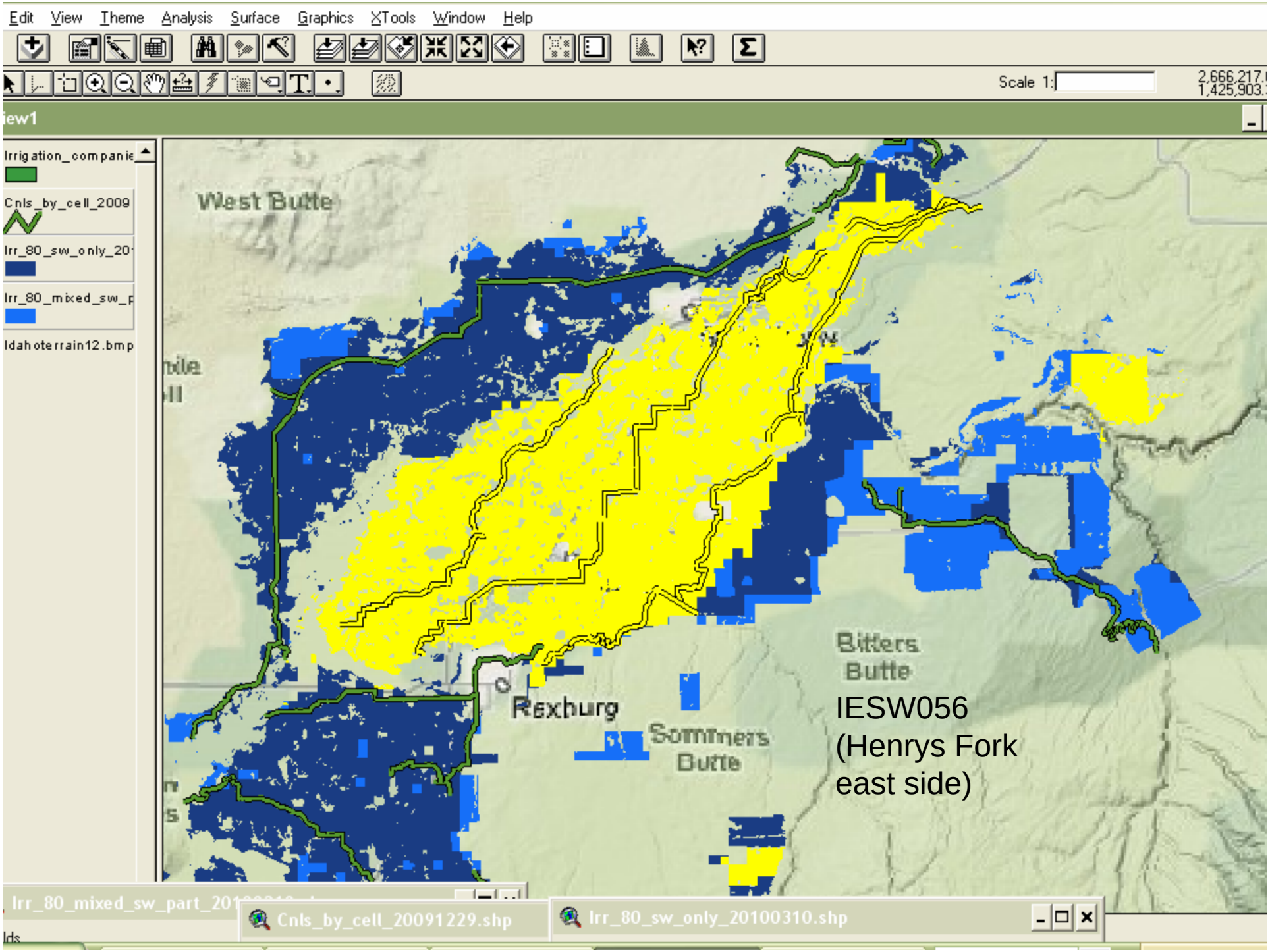
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 2 | 1 | 0 | 0 |
| 0.1-<0.2 | 1 | 0 | 0 | 7 | 3 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 12 | 6 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 1 | 6 | 12 | 0 | 0 |
| 0.4-<0.5 | 2 | 1 | 10 | 1 | 5 | 1 | 0 |
| 0.5-<0.6 | 2 | 1 | 11 | 0 | 2 | 5 | 0 |
| 0.6-<0.7 | 0 | 7 | 4 | 0 | 0 | 10 | 0 |
| 0.7-<0.8 | 1 | 8 | 2 | 0 | 0 | 10 | 6 |
| 0.8-<0.9 | 7 | 9 | 1 | 0 | 0 | 1 | 10 |
| 0.9-<1.0 | 6 | 3 | 0 | 0 | 0 | 1 | 7 |
| >= 1.0 | 8 | 0 | 0 | 0 | 0 | 1 | 6 |

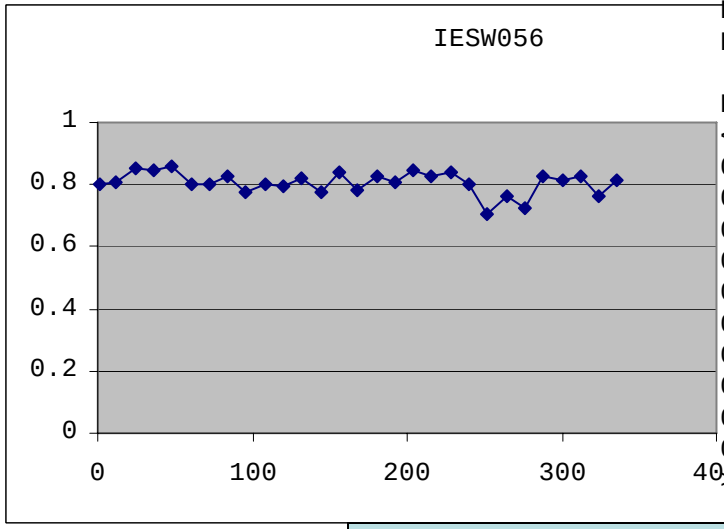
$$CF_{div} = 1.54\ (0.55) - 0.54 = 0.31$$

BEFORE RED
Entity IESW055

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 25981.14 | 125.377 | 636.118 | 0 | 26106.52 | 0.197097 |
| Irr_86 | 0 | 25267.38 | 114.508 | 589.683 | 0 | 25381.89 | 0.194186 |
| Irr_92 | 0 | 25360.8 | 128.059 | 615.899 | 0 | 25488.86 | 0.207922 |
| Irr_00 | 0 | 25905.81 | 128.124 | 617.283 | 0 | 26033.94 | 0.207561 |
| Irr_06 | 0 | 19224.03 | 98.358 | 445.215 | 0 | 19322.39 | 0.220922 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
West Butte
Rexburg
Sommers Butte
Bitters Butte
IESW056
(Henrys Fork
east side)
Irr_80_mixed_sw_part_20
Cnls_by_cell_20091229.shp
Irr_80_sw_only_20100310.shp




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_056_20
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

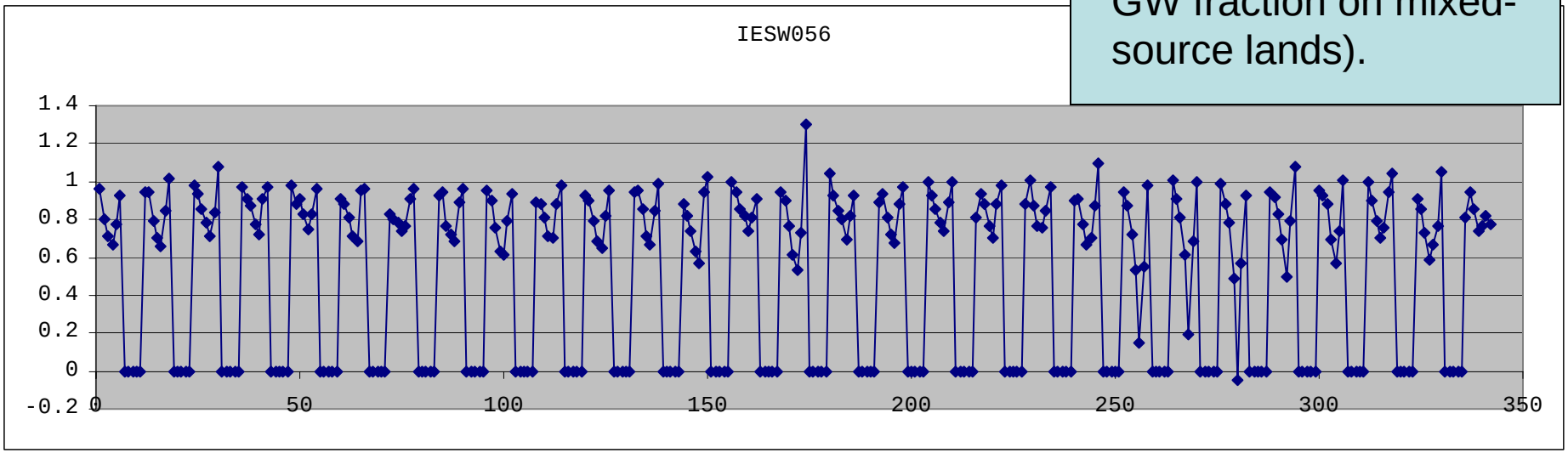
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 0 | 0 | 0 | 0 | 2 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 1 | 1 | 0 | 0 |
| 0.5-<0.6 | 0 | 0 | 0 | 2 | 3 | 2 | 0 |
| 0.6-<0.7 | 0 | 0 | 0 | 9 | 10 | 1 | 0 |
| 0.7-<0.8 | 0 | 1 | 12 | 15 | 12 | 6 | 1 |
| 0.8-<0.9 | 7 | 9 | 16 | 2 | 0 | 15 | 0 |
| 0.9-<1.0 | 19 | 18 | 1 | 0 | 0 | 5 | 19 |
| >= 1.0 | 2 | 1 | 0 | 0 | 0 | 0 | 9 |

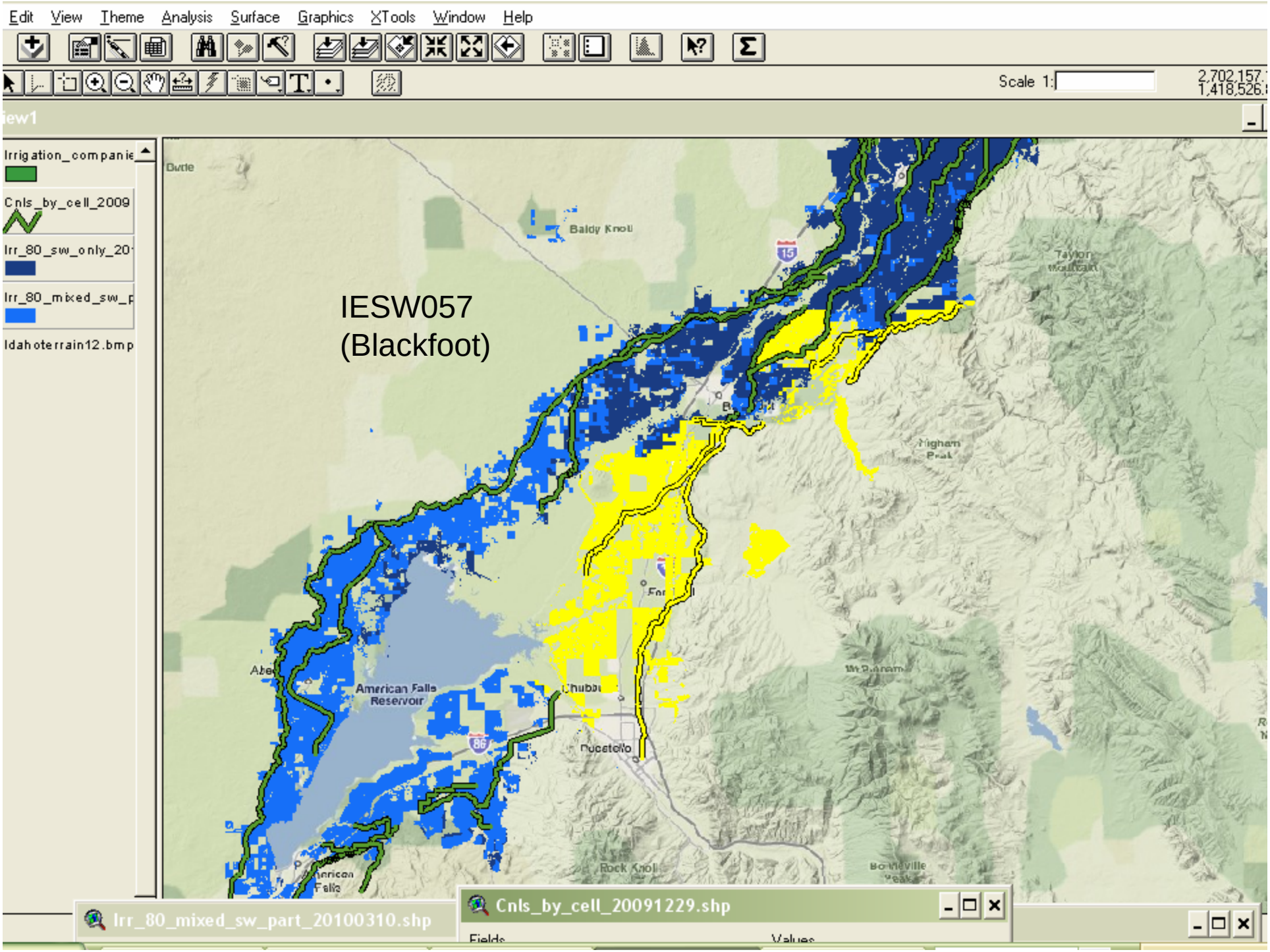
$$CF_{div} = 1.54\ (0.80) - 0.54 = 0.69$$

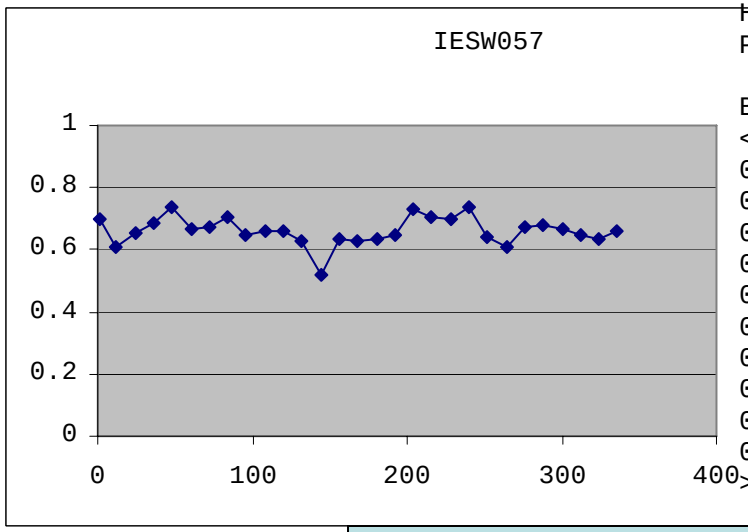
BEFORE RED
Entity IESW056

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 45315.34 | 1990.331 | 3446.468 | 0 | 47305.67 | 0.577499 |
| Irr_86 | 0 | 41849.11 | 2373.717 | 3820.552 | 0 | 44222.83 | 0.621302 |
| Irr_92 | 0 | 45383.16 | 1897.584 | 3393.018 | 0 | 47280.74 | 0.559261 |
| Irr_00 | 0 | 43746.08 | 2035.182 | 3410.206 | 0 | 45781.26 | 0.596792 |
| Irr_06 | 0 | 35170.45 | 1700.917 | 2857.06 | 0 | 36871.37 | 0.595338 |

This is higher than nearby entities; consider increasing MixFrac (by reducing GW fraction on mixed-source lands).




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
IESW057
(Blackfoot)
Baldy Knoll
American Falls
Reservoir
Pocatello
Rock Knoll
Irr_80_mixed_sw_part_20100310.shp
Cnls_by_cell_20091229.shp
Fields
Values



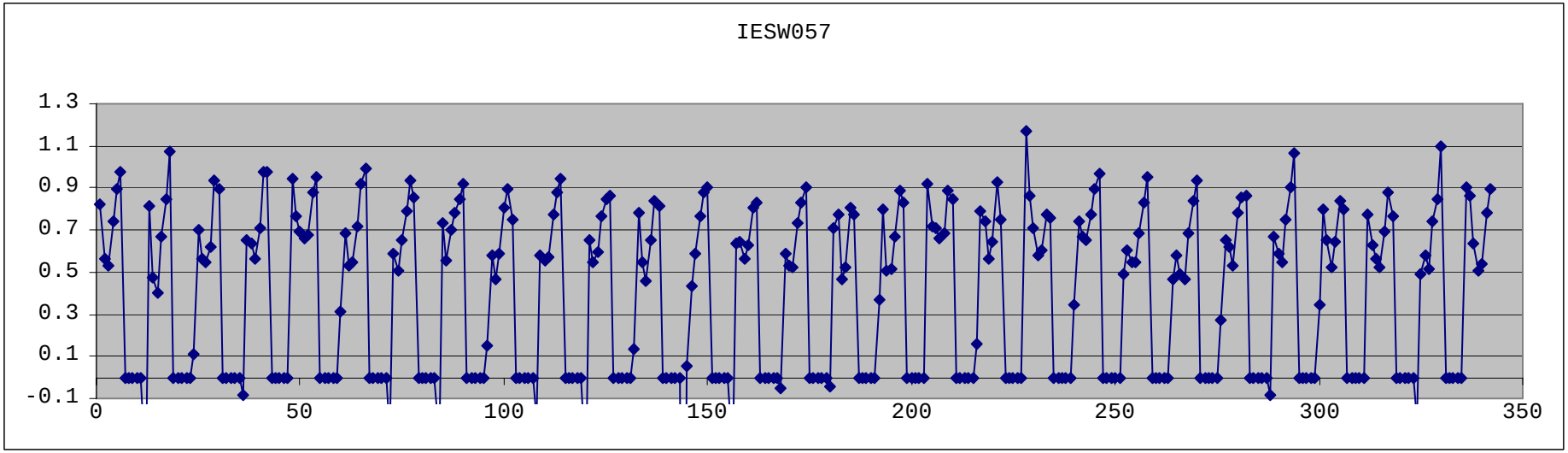

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_057_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

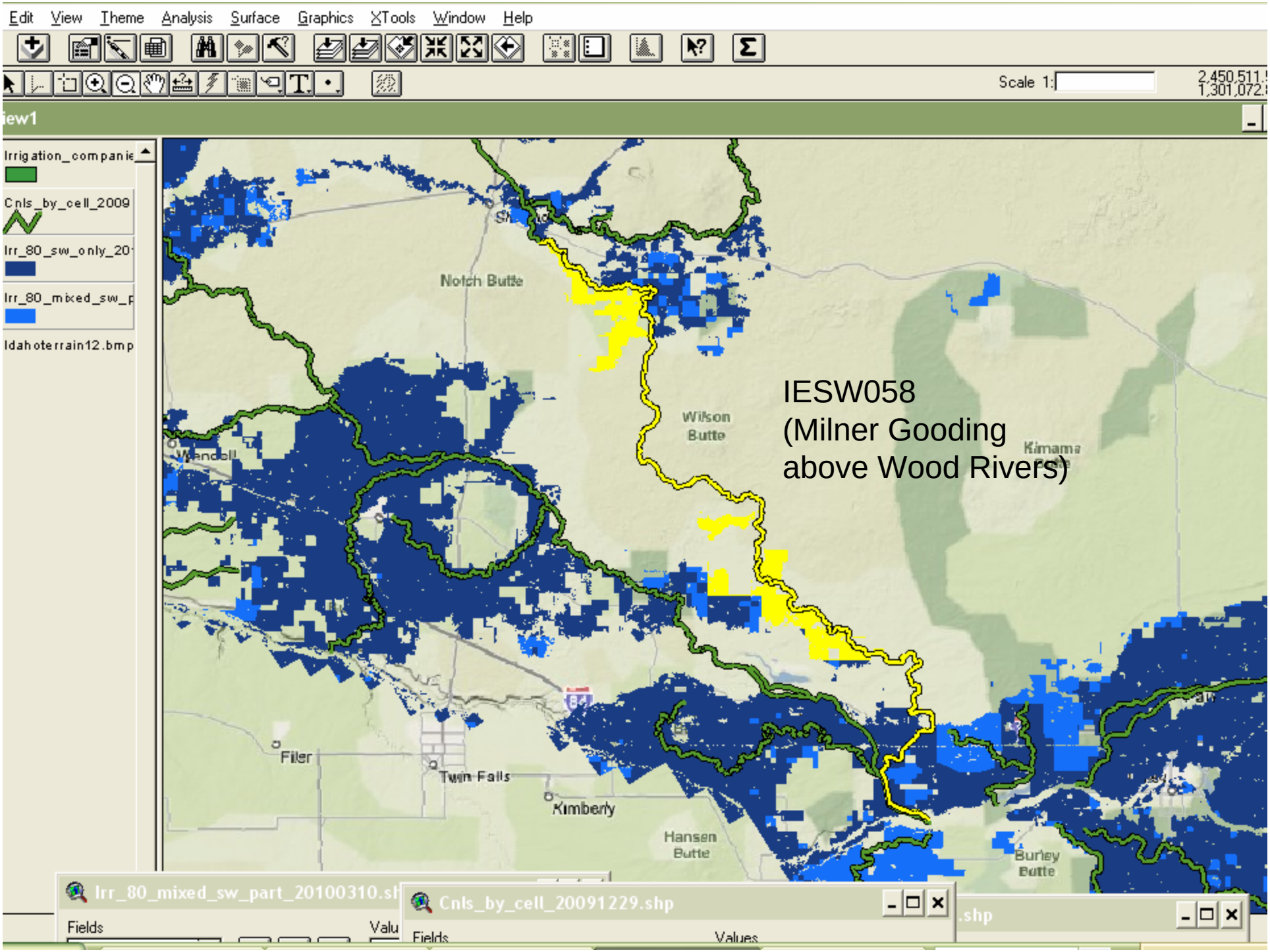
| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 4 | 0 | 0 | 1 | 0 | 0 | 0 |
| 0.4-<0.5 | 2 | 1 | 4 | 3 | 0 | 0 | 0 |
| 0.5-<0.6 | 0 | 5 | 14 | 20 | 2 | 0 | 0 |
| 0.6-<0.7 | 0 | 9 | 7 | 4 | 13 | 0 | 0 |
| 0.7-<0.8 | 1 | 9 | 4 | 1 | 13 | 2 | 6 |
| 0.8-<0.9 | 0 | 4 | 0 | 0 | 1 | 21 | 9 |
| 0.9-<1.0 | 3 | 0 | 0 | 0 | 0 | 6 | 11 |
| >= 1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |

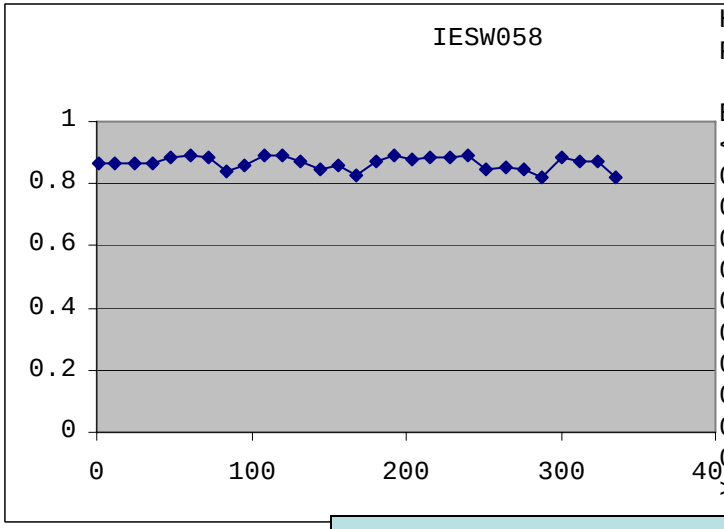
$$CF_{div} = 1.54\ (0.65) - 0.54 = 0.37$$

BEFORE RED
Entity IESW057

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 56103.72 | 2604.446 | 6125.736 | 0 | 58708.17 | 0.425165 |
| Irr_86 | 0 | 48499.25 | 2141.344 | 5018.863 | 0 | 50640.59 | 0.426659 |
| Irr_92 | 0 | 50702.27 | 2306.366 | 5494.548 | 0 | 53008.64 | 0.419755 |
| Irr_00 | 0 | 40706.62 | 2108.063 | 4838.775 | 0 | 42814.69 | 0.43566 |
| Irr_06 | 0 | 45740.3 | 1982.174 | 4649.196 | 0 | 47722.48 | 0.426348 |




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Notch Butte
Wilson Butte
Wendell
Kimama
Filer
Twin Falls
Kimberly
Hansen Butte
Burley Butte
IESW058
(Milner Gooding
above Wood Rivers)
Irr_80_mixed_sw_part_20100310.sh
Cnls_by_cell_20091229.shp
Fields
Values




Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_058_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:51 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.1-<0.2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 0.3-<0.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.4-<0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.5-<0.6 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.6-<0.7 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 0.7-<0.8 | 0 | 0 | 9 | 14 | 4 | 1 | 0 |
| 0.8-<0.9 | 13 | 23 | 20 | 15 | 24 | 15 | 0 |
| 0.9-<1.0 | 13 | 6 | 0 | 0 | 1 | 12 | 22 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

IESW058

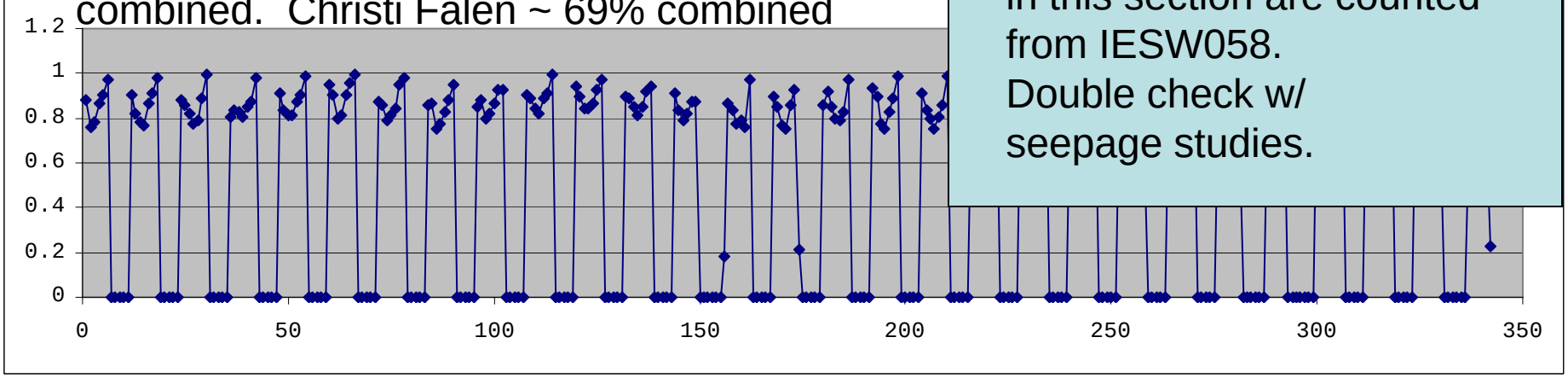
$CF_{div}$ = 1.54 (0.85) - 0.54 = 0.77

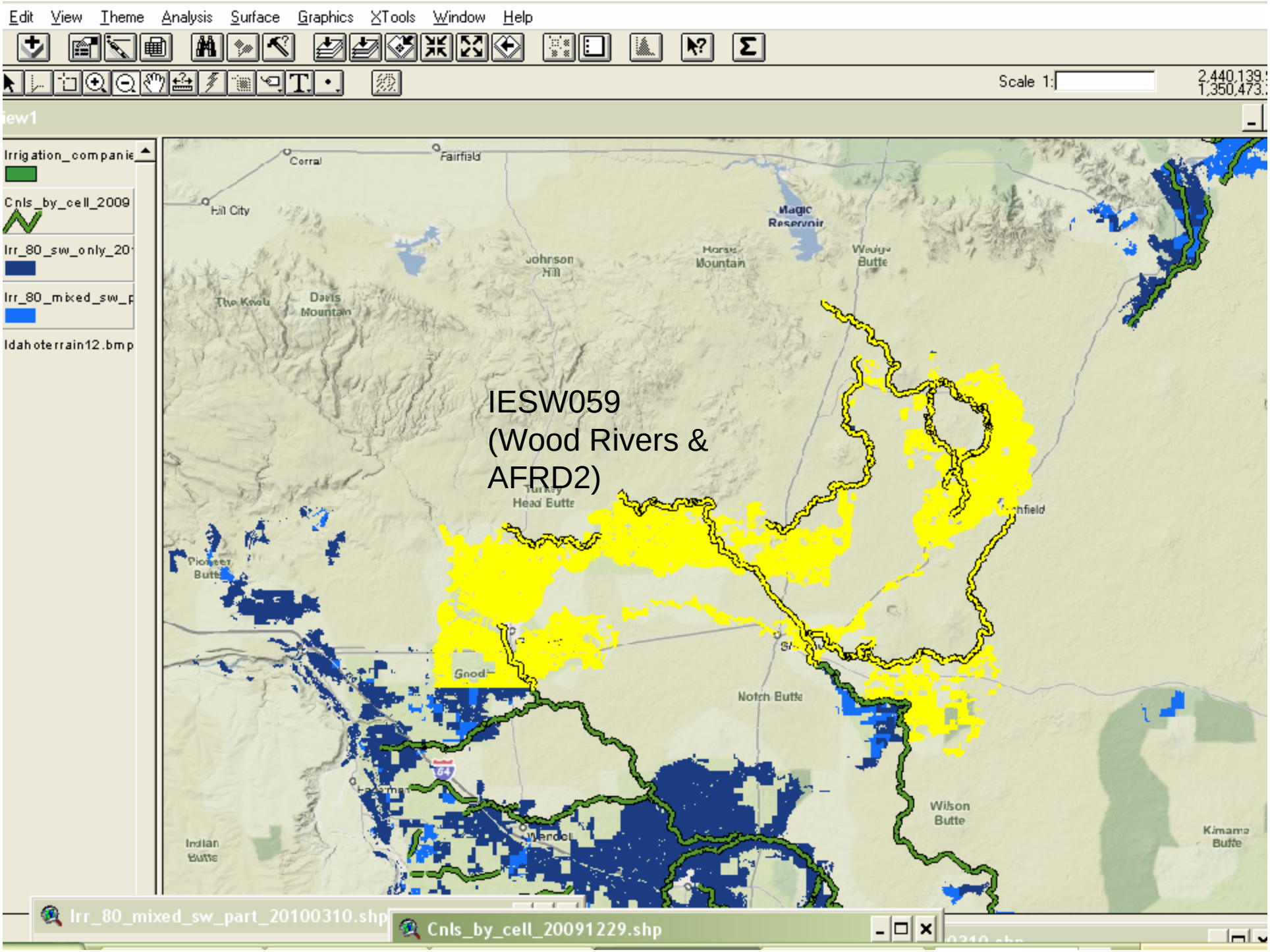
BEFORE RED
Entity IESW058

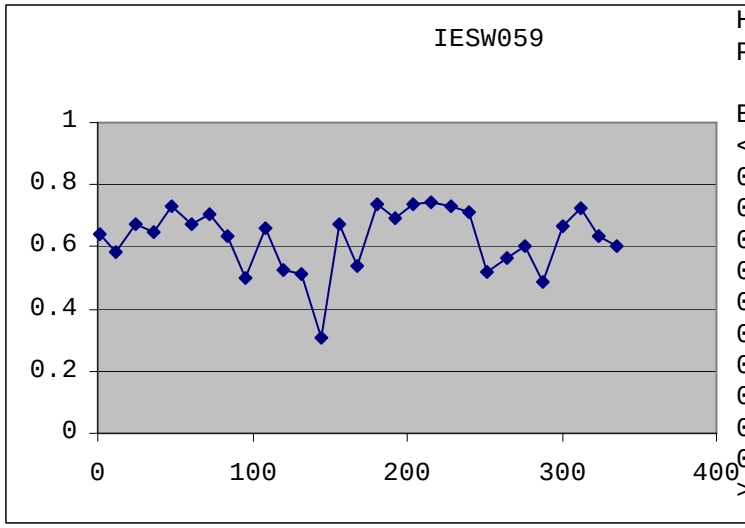
| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFra |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 7028.499 | 1719.962 | 4244.864 | 0 | 8748.461 | 0.4051 |
| Irr_86 | 0 | 5500.165 | 1487.583 | 3735.722 | 0 | 6987.748 | 0.3982 |
| Irr_92 | 0 | 6236.099 | 1589.997 | 3966.15 | 0 | 7826.096 | 0.4008 |
| Irr_00 | 0 | 6274.769 | 1491.44 | 3812.509 | 0 | 7766.209 | 0.3911 |
| Irr_06 | 0 | 6096.668 | 1561.832 | 3767.253 | 0 | 7658.5 | 0.4145 |

This is a high $CF_{div}$ but it is reasonable since this canal carries water for IESW058 and IESW059, but all losses in this section are counted from IESW058. Double check w/ seepage studies.

Sullivan: 0.48 for IESW058 & 059 combined. Christi Falen ~ 69% combined




Edit View Theme Analysis Surface Graphics XTools Window Help
Scale 1:
Irrigation_companie
Cnls_by_cell_2009
Irr_80_sw_only_20
Irr_80_mixed_sw_p
Idahoterrain12.bmp
Corral
Fairfield
Hill City
Magic Reservoir
Johnson Hill
Horse Mountain
Wedge Butte
The Knob
Davis Mountain
Turkey Head Butte
Pioneer Butte
Gooding
Notch Butte
Wilson Butte
Kimama Butte
Indian Butte
Wendell
IESW059
(Wood Rivers &
AFRD2)
Irr_80_mixed_sw_part_20100310.shp
Cnls_by_cell_20091229.shp



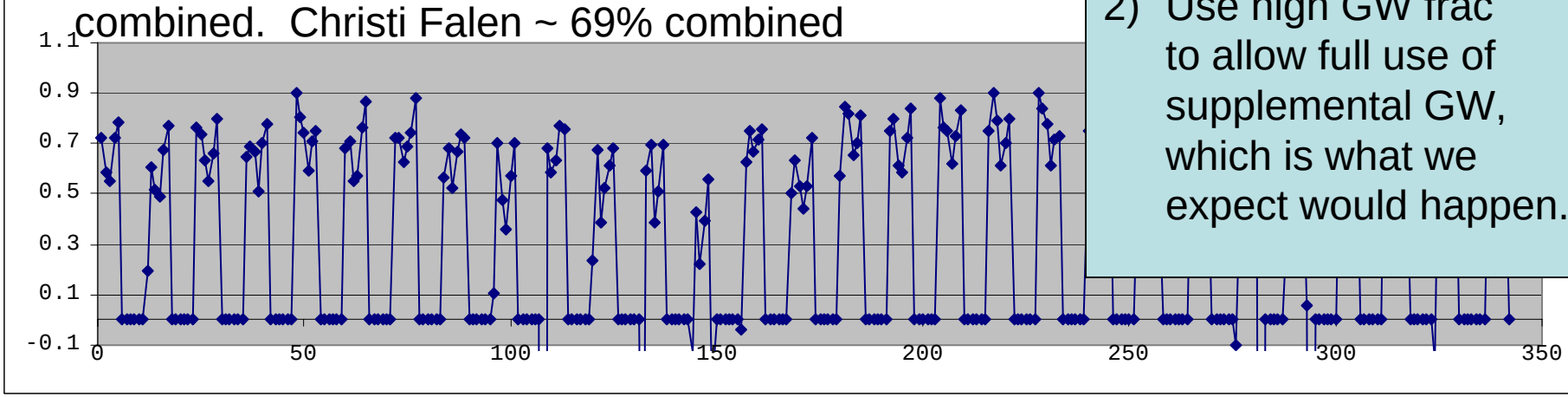

Histograms for L:\CANAL_SEEP_MIXED_SRC_20100211\HISTOGRAMS\NETRESID_059_2
Processed by utility 'VB_BATCH_HISTOGRAMATOR' 3/15/2010 3:06:52 PM

| Bin | APR | MAY | JUN | JUL | AUG | SEP | OCT |
|---|---|---|---|---|---|---|---|
| <0 | 6 | 0 | 0 | 0 | 0 | 1 | 2 |
| 0-<0.1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| 0.1-<0.2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 0.2-<0.3 | 2 | 0 | 1 | 0 | 0 | 0 | 0 |
| 0.3-<0.4 | 0 | 0 | 1 | 5 | 0 | 0 | 0 |
| 0.4-<0.5 | 1 | 1 | 1 | 3 | 2 | 0 | 0 |
| 0.5-<0.6 | 3 | 1 | 8 | 10 | 5 | 1 | 0 |
| 0.6-<0.7 | 2 | 11 | 12 | 11 | 5 | 5 | 0 |
| 0.7-<0.8 | 5 | 11 | 5 | 0 | 17 | 14 | 0 |
| 0.8-<0.9 | 3 | 5 | 1 | 0 | 0 | 7 | 0 |
| 0.9-<1.0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| >= 1.0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

$$CF_{div} = 1.54\ (0.60) - 0.54 = 0.42$$

BEFORE RED
Entity IESW059

| Yr | GW_only | SW_only | Mixed_Net | Mixed_tot | Eff_GW | Eff_SW | MixFrac |
|---|---|---|---|---|---|---|---|
| Irr_80 | 0 | 98976.24 | 3316.977 | 8951.748 | 0 | 102293.2 | 0.37054 |
| Irr_86 | 0 | 76803 | 3172.689 | 8393.045 | 0 | 79975.69 | 0.378014 |
| Irr_92 | 0 | 85954.16 | 3422.206 | 9105.657 | 0 | 89376.37 | 0.375833 |
| Irr_00 | 0 | 75840.67 | 3382.269 | 8957.533 | 0 | 79222.94 | 0.377589 |
| Irr_06 | 0 | 71018.78 | 3122.563 | 8273.658 | 0 | 74141.34 | 0.37741 |

1) The dry-year dips are probably real and On-Farm indication of deficit will probably be the right thing.
2) Use high GW frac to allow full use of supplemental GW, which is what we expect would happen.

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