

Estimating Conveyance Loss using the Worstell Method

Claim No.

Formula: $S = (w)(i)(0.0667)$

Where: S = loss in cfs per mile

w = top width of the high water mark in feet

i = loss rate in feet per day (see Table)

Type of soil	i (ft/day)
medium clay loam	0.5 - 1.5
impervious clay	0.5
medium soils	1.0
somewhat pervious soils	1.5 - 2.0
gravels	2.5 - 5.0

Worksheet:

w = 2' assume

i = 1.0 ft/day

ditch length (mi.) = 100' = 0.00187 miles from pond to property

Conveyance Loss:

$S = (2)(1)(0.0667) = 0.133 \text{ cfs/mile}$

Loss = 0.003 cfs/mile

$0.133 \text{ cfs/mile} \times 0.00187 \text{ miles} = 0.000248 \text{ cfs}$

$(2.17 \text{ ac})(0.03 \text{ cfs/ac}) = 0.065 \text{ cfs}$

ditch loss = 0.003

0.068

or

0.07 cfs

Claimed 0.20 cfs irrigation

Recommend 0.07 cfs