

MILL DAM DITCH SYSTEM

A reconnaissance survey of the water situation on the Mill Dam Ditch System, Box Elder County, on June 27, 1930, reveals the following:

1. Barker Spring Ditch
No Diversion
2. Hubbard Spring Ditch
Ditch cleaned. Weir near point of diversion of good plank construction. Post and plank control gate above weir. No velocity of approach over weir. Weir 2 ft. crest. Head on Crest 2" Q- .46 c.f.s. My estimate of the water flowing thru the ditch was larger than the Q. shown, and before taking this as absolute a careful check should be made to see if there is not some water flowing under the weir crest board. Priority 1872 for .95 c.f.s.
3. Zundell Spring Ditch.

Ditch in fair condition. Weir of good plank construction and apparently in good working condition. Good Post and Plank controlling gate in weir pond. No velocity of approach over weir. Weir 2 foot Crest - Head $2\frac{1}{4}$ " Q- .55 c.f.s.
Priority 1852 for .69 c.f.s.
4. Dalton "A" Ditch.
Ditch in fair condition. Weir of good plank construction and apparently in good working condition. A good Post and Plank control and gate across in natural channel. Weir Pond is part of diversion pond. Weir set to side at point of diversion. No velocity of approach over weir. Weir Crest 2 feet. Head 3" Q= .84 c.f.s
Priority 1852 for .75 c.f.s.
5. Mill Dam Ditch.
Ditch in fair condition. Weeds are getting bad. Weir of good plank construction. A good Post and Plank control and gate across natural channel. Weir located short distance down the ditch from point of diversion. Water stands near top of bank in weir pond and backs up from weir into natural channel above diversion dam.

No velocity of approach over weir.
Weir crest 3 feet - Head 3 3/4"
Priority 1852 for 2.22 c.f.s.

Q= 1.76 c.f.s.

Total diverted

Q= 3.61 c.f.s.

Estimate Q passing down natural
channel from Mill Dam Ditch Diver-
sion and going down to supply stock
water right

Q= .25 c.f.s.

Water available from Barker Spring
to Mill Dam Ditch diversion incl.

Q= 3.86 c.f.s.

Stock Water

Dalton "S" "C" Ditch

Good shape. No Weir. Control in
fair shape. Est. diversion -
Passing div. Est. -

Q= .15 c.f.s.
Q=30 c.f.s.

Dalton "5d" Ditch

Water dammed up in natural channel.
Control is manure, earth & poles.
No water flowing over control, but
small quantity seeping thru dam. No
stock in pasture. Crop being matured
for hay.
Diversion -

Trace

Morgan "6c" Ditch

Earth, manure and pole diversion dam.
Water backed up to top of channel
banks to make possible a diversion of
an estimated quantity of .10 c.f.s.
into pasture for apparently no direct
stock watering benefit. Crop being
pastured

Q .10 c.fs.

Brunker "6d" Ditch.

Same kind of dam as "6c". Water
has found its way thru the dam and not
being held up in natural channel. Crop
being pastured. Water diverted under
pasture fence thru part of old channel.

"6e" Ditch.

Water not diverted from channel but is
backed up by obstruction on lower fields.

As above noted there is very little stock water available
at present below Dalton "C" Ditch diversion, but very little
is necessary for the reason that the creek runs thru the field
in which the cattle are pastured. It is hard to understand why

these manure-earth dams are necessary across the channel when the stock can go direct to the ditch for their water. It would appear that these dams should be broken to save seepage and evaporation and the water sent down the natural channel without obstruction to insure better and more available water. All the water there is available without turning water from above, for the last 4 named points is that made so by return flow. This should be made to go as far as possible in order that it will not be necessary to turn irrigation water down from above for stock watering purposes which is so badly needed at this time of the year.

To divert the water into the Mill Dam Ditch and over the weir it has to be backed up to the top of the banks. In so doing there is complaint that considerable water is lost by seepage thru the banks. This is no doubt the case but, inasmuch as stock water is absolutely necessary below, it would appear that this water goes to supply said stock water rights, and if not permitted to reach the channel by seepage thru the ditch bank it would be necessary to turn same thru the diversion dam.

Checking the present use of the irrigation water shown above with the Mill Dam System decree of the court it will readily be seen that this water is being diverted without regard to the priority set forth in said decree. The Hubbard Spring Area users claiming that they should not be compelled to turn the water of 1872 priority from Hubbard Spring Area down the stream to satisfy the 1852 right from Mill Dam System below. On the other hand the 1852 rights are claiming that Hubbard Spring users should be held to their priority and then confined to only the waters of "Hubbard" Spring and not to the water they are now intercepting from the Barker Spring channel immediately below the Hubbard Spring.

If the water of the Hubbard Spring Ditch with 1872 priority was shut dry it would be interesting to know what per cent would reach the Dalton "A" and Mill Dam Ditch point of diversion.

Each visit to this system the question comes up relative to straightening and clearing out the natural channel from the Railroad track above the Hubbard Spring Area to the Mill Dam Ditch diversion, the owner of 1852 water claiming that if the subsequent users want more water they should clear this natural channel. The owner of 1872 water claims the prior users should clean this natural channel and conserve the water therein lost by evaporation and seepage before demanding them to turn down. There is some merits to both sides. From one side it is not a beneficial use of water to demand the water turned down if a large per cent of it is to be lost in this way and the other side, this being the prior appropriators side, that first in time is first in right and they should have their rights supplied, without the expense of cleaning the natural channel, which they have never done, before the subsequent rights are supplied.

The source of supply is quite constant, varying only by decreasing as the summer months pass by. The weirs are such that they could be set and as the stream decreased they no doubt would divide the water, not exact, but probably proportionately. However, the shutting off and turning on of the subsequent rights as stream flow demands may cause some trouble unless there is some one who could stay with the regulation until the water had had time to reach from the Hubbard Spring Area to the Mill Dam Ditch diversion.

Reid German
Principal Asst.

July 1, 1930.