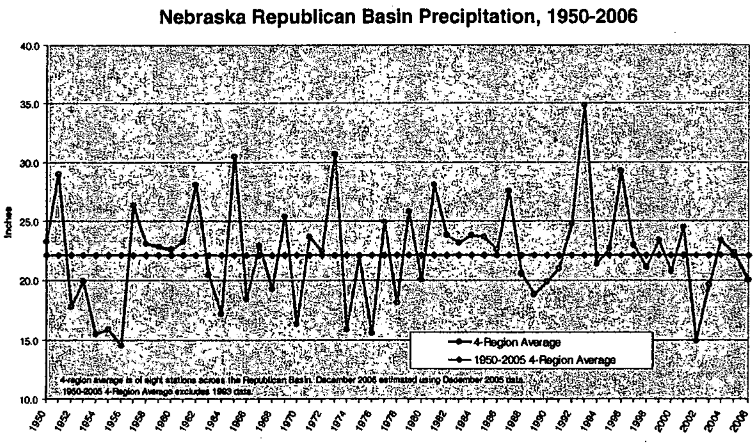
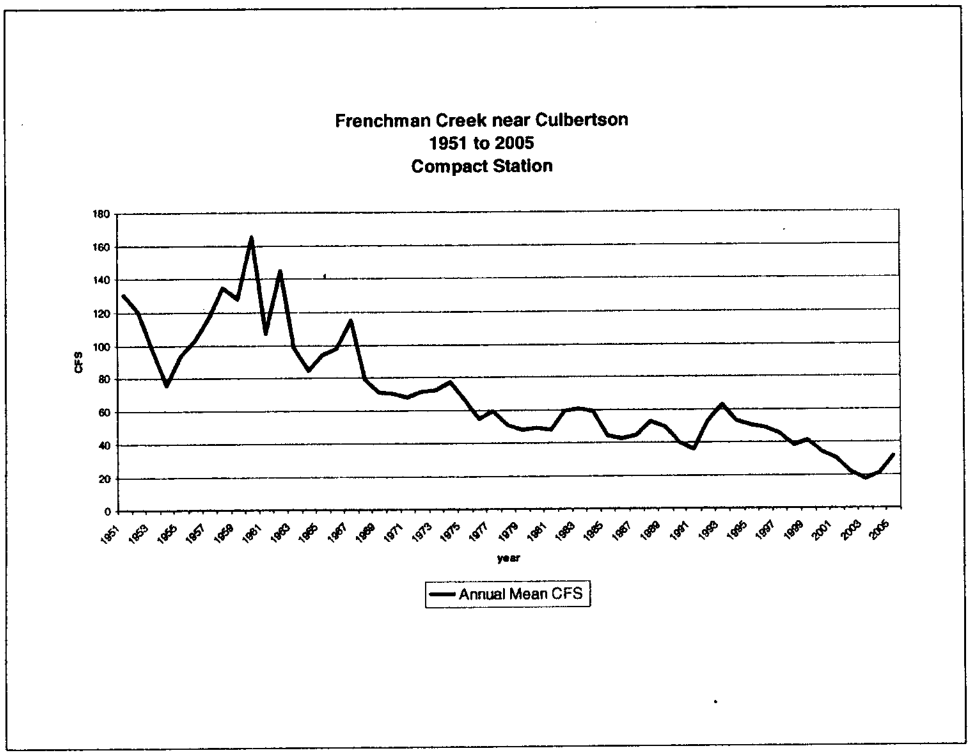


Let me start by describing the hydrological realities of our current situation

Drought – not as sever as 50's in terms of precip in the basin in fact 2004-2005 slightly above average

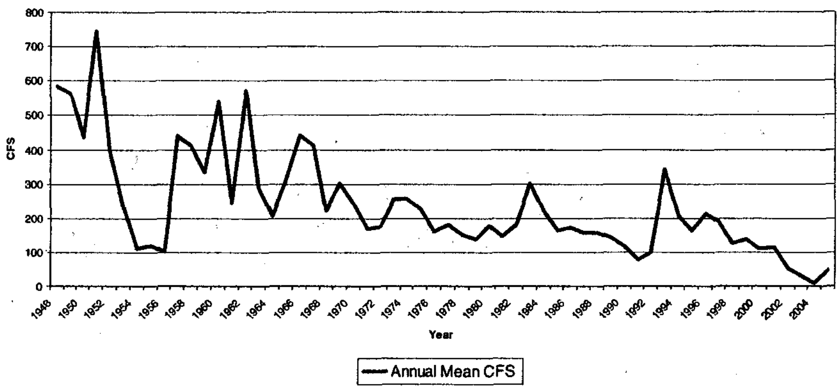
1980's comparatively wet

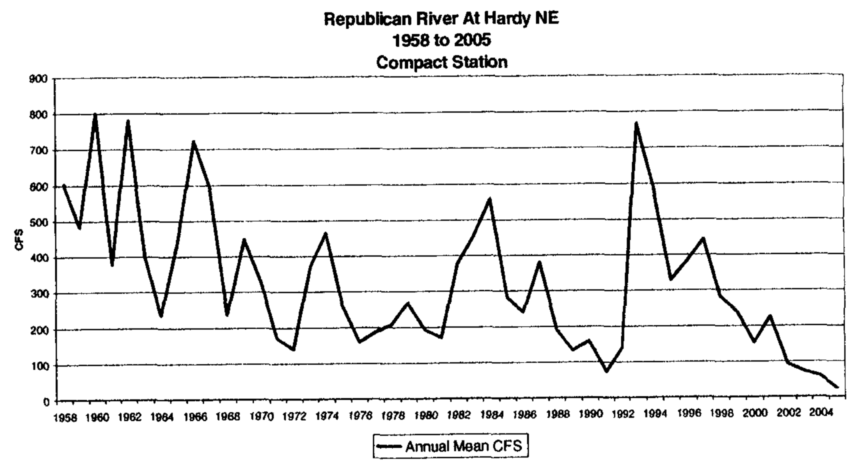
DNR 003985



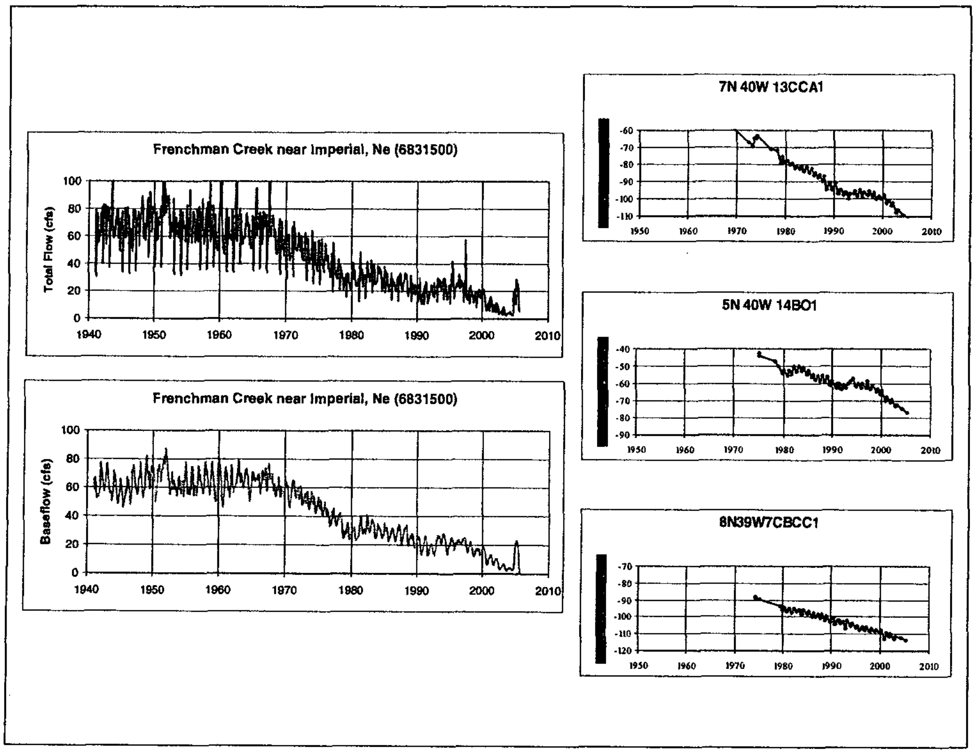
Nevertheless we have seen stream flow declines throughout the basin with the exception of streams like Turkey Creek that have benefited from the importation of water from the Platte system

Republican River Near Orleans
1948 to 2005
Non-Compact Station

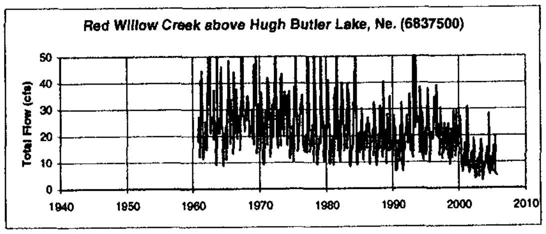


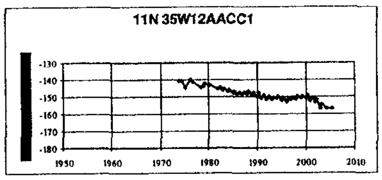


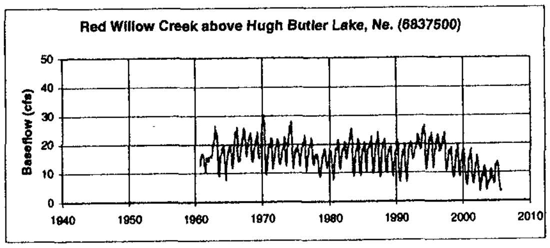
Can see high flows of 1993 and 1996 but general trend is down and note in 1980's when precip was above average for 7 years straight flows not as high as late sixties early seventies when there was below average precip

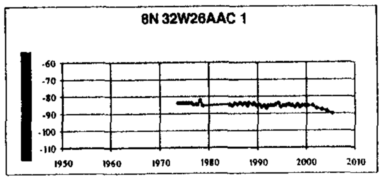


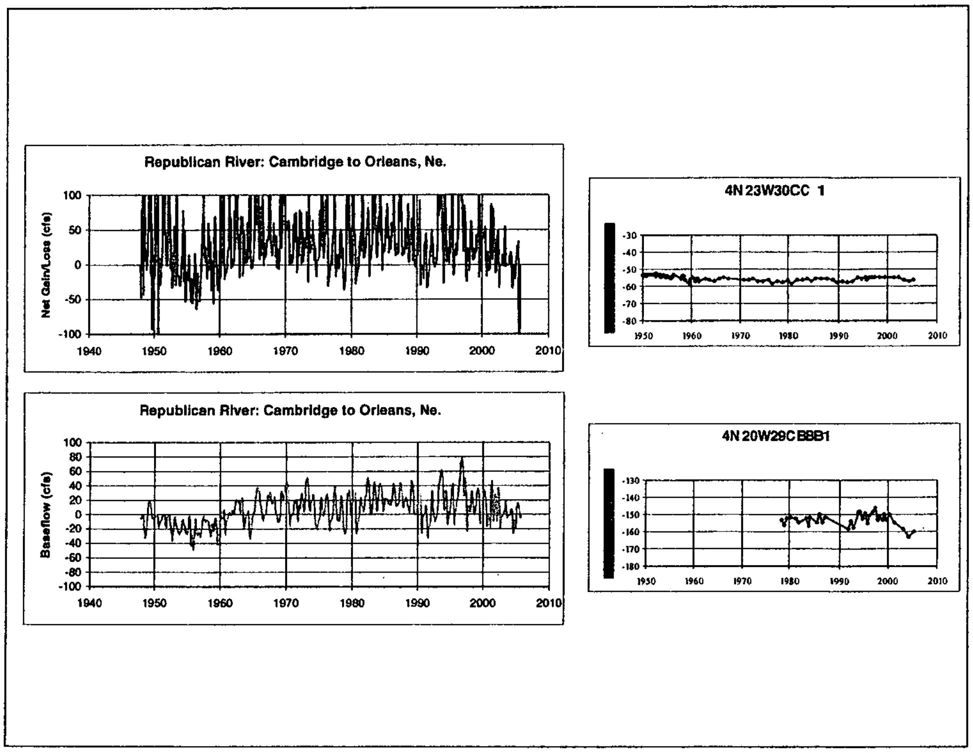
Stream flows reflect what is happening to the ground water in storage. Total Flow – base flow Water table elevations


Red Willow Creek above Hugh Butler Lake, Ne. (6837500)
Total Flow (cfs)
50
40
30
20
10
0
1940
1950
1960
1970
1980
1990
2000
2010


11N 35W12AACC1
[redacted]
-130
-140
-150
-160
-170
-180
1950
1960
1970
1980
1990
2000
2010


Red Willow Creek above Hugh Butler Lake, Ne. (6837500)
Baseflow (cfs)
50
40
30
20
10
0
1940
1950
1960
1970
1980
1990
2000
2010

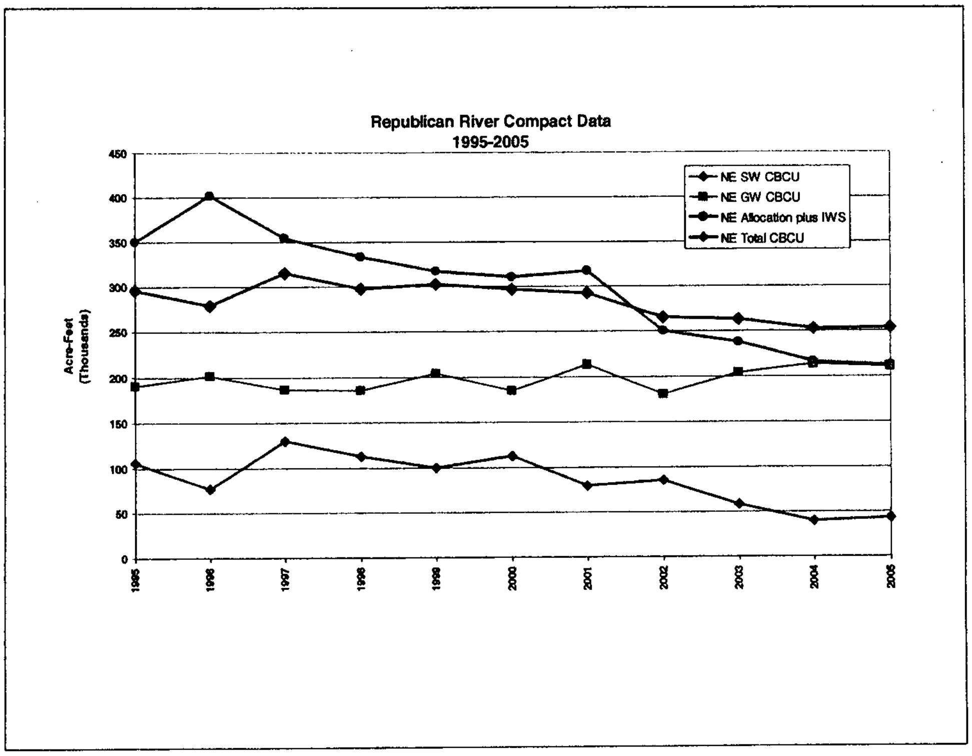

6N 32W26AAC 1
[redacted]
-60
-70
-80
-90
-100
-110
1950
1960
1970
1980
1990
2000
2010



Do not see downward trend here – impact of surface water diversions by Frenchman Cambridge I. D. shows the impact surface water diversions can have on ground water elevations and based flow in an area and why it is important for us to be concerned about impact of low stream flow on areas where that stream flow provides water for wells

There may be an important opportunity here for conjunctively managing our surface and ground water flows to make more efficient use of these flows.

We are looking into just this in the Frenchman Valley study with the Bureau of Reclamatin



It is true that this is not a rosy picture – but it is not doom and gloom

Explain slide

Note we were in compliance with the compact up through 2001 – even with the stream depletions from the upland wells the Special Master in the Court Case stated must be included in the Compact calculations

SM

Obviously since 2001 we have had a drought, starting with the very low precip year of 2002

Drought

However, based on a satellite inventory of irrigated land we had more than a 100,000 more irrigated acres in 2005 in the basin than we did in 2001.

The bad news is that our consumptive use has been exceeding our allocations since 2002

The good news is that up to 2001 we were o.k. and the basin economy was not a total disaster.

OK up to 2001

What that tells me is that even with the decisions of the special master that required us to include all upland well depletions in the Compact calculations, we can get our consumptive use in balance with our allocations without totally devastating the economy of the basin.

Of course getting out of the drought would help a great deal

That is the good news but I have to be honest and tell the bad news.

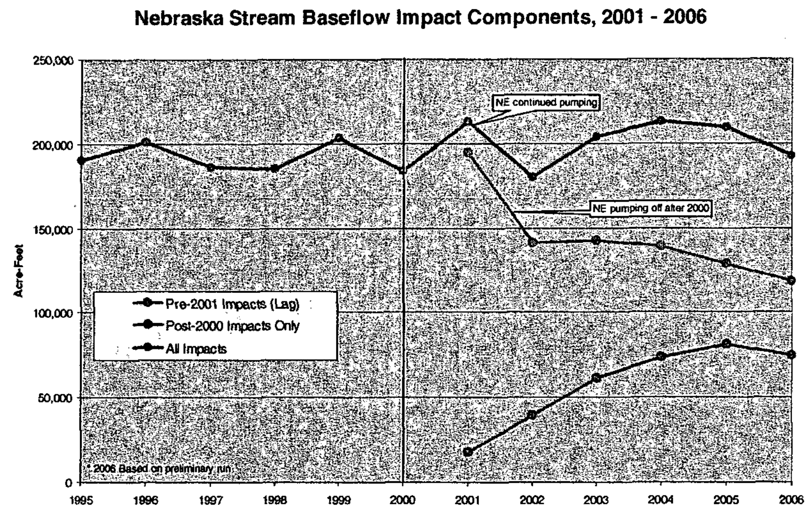
Even when the drought abates, as the Governor stated, we will still have a problem.

As I have already mentioned, wWe have added more irrigated acres in the basin since 2001

And past pumping has created a debt that we must now pay back

Current all CREP 1600 AF

CREP 44 5100 AF



I am sure you have all heard discussions about the "lag effect" from pumping wells.

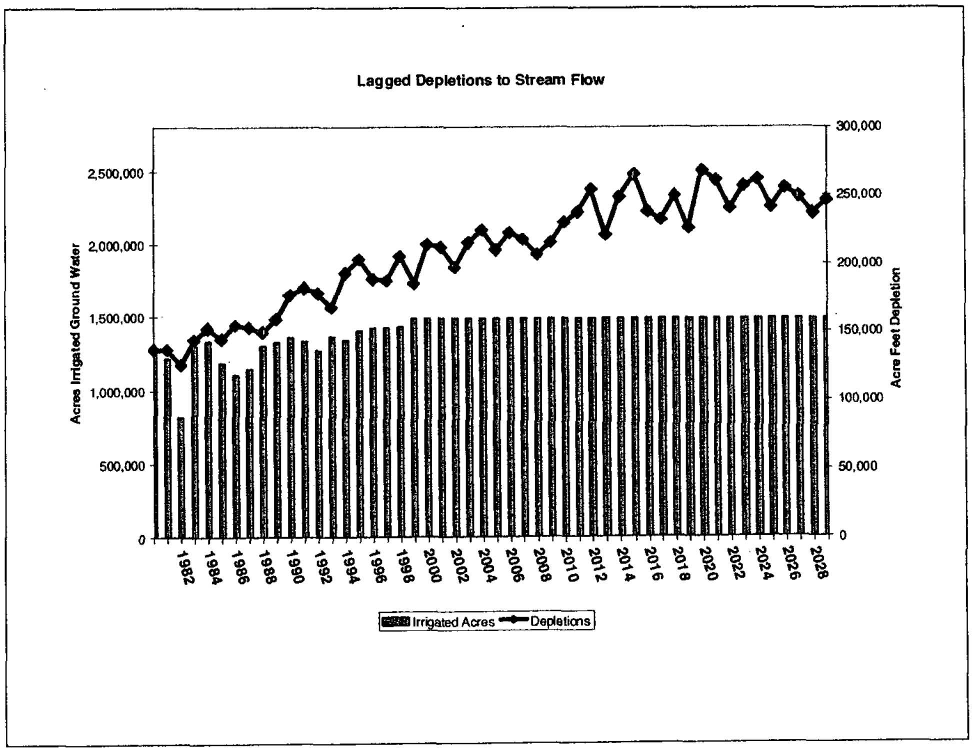
When a well removes water from the ground water, it decreases the amount of water in storage in the ground water reservoir. As the level of the storage decreases, the base flow to stream declines.

If if a well is at some distance from the stream, the impact of pumping that well will not show up as a depletion to the stream at the same time that the well is pumped.

The farther the well is from the stream – the longer it will take to see the full impact of the well on stream – it may be months if the well is close to the stream or years or decades if the well is far from the stream

The lag effect creates a debt that future generations must pay

This graph shows debt we now suffer from because of past ground water pumping.



Our challenge in future will be to incrementally reduce this debt.

Compact

Forecast dogge for allocation period (3yrs?)
Determine Target CU can allow in basin over 3 years
Determine controls necessary to achieve target CU over 3 year period.
Determine annual measure need to deal with annual variability.
(1) Long term – will try to predict long term allocations – not easy to do
Immediate – make best est. of allocation for next 3 years.
NRD – GW SW – DNR Funding
(3) Do whatever we can to augment water supply
reduce non ben CU so can relax above controls

manage debt
sustain future
Compact comp

So what can we do to manage this debt, restore a balance between water supplies and use so that the uses can be sustained for future generations and we can be in compliance with the Compact

Many have asked DNR to say what we have to do. So, because you have asked I will briefly describe a potential that DNR believes can successfully achieve these goals.

In so doing I want to emphasize that we are simply throwing this out on the table for discussion. In our view, any actual plan must be developed jointly with DNR and the NRDs and the plan must have significant input from all the stakeholders in the basin. Thus, again – because people have asked, here is the basis of a potentially successful plan we are not wedded to this plan.

Note title – Sustain

So how would this work short term.
This is ~~one~~ example of a plan DNR thinks will work for next 3 years,

Assume ~~worst~~ ~~(?)~~ scenario,
Allocation < 200 KAF
Based on that allocation –

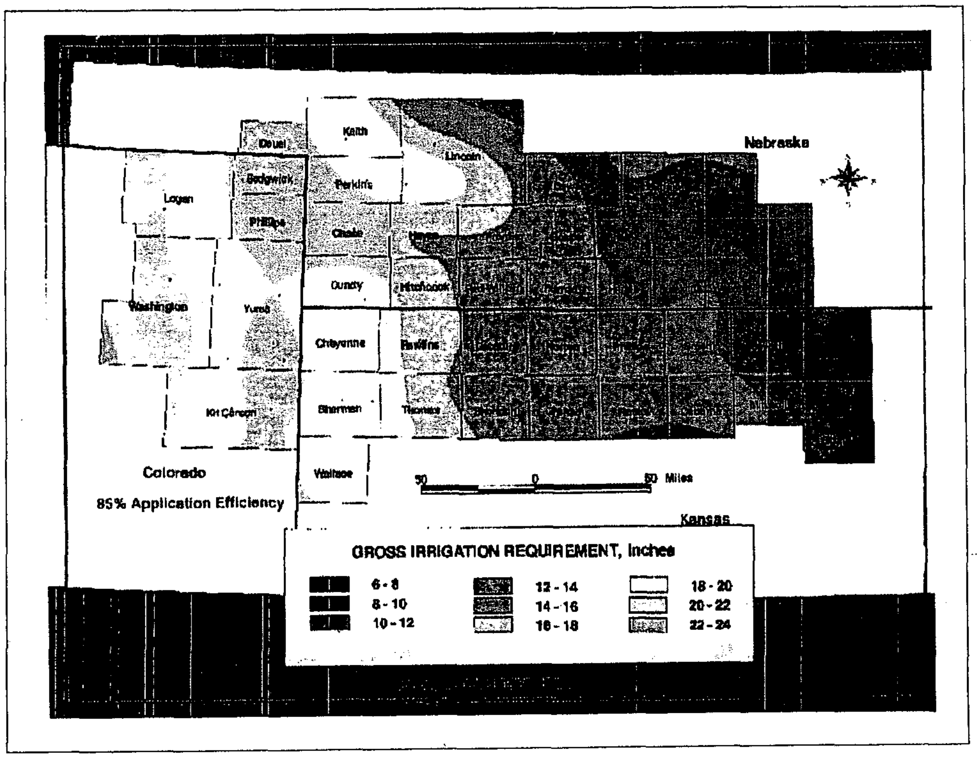
SW supplies 0 supply in HC
some in FC/RW
but allocation SW only

GW supplies – 180 KAF.
~~Divide up~~ Took

Ran model to determine reductions for each NRD – divided by acres (??)

In order to achieve a quick response = differential
In order to be in
between ... well ... Upland ...

DNR 003995



8-10"
10-12" E LR
18-20" URNRD

Estimated allocation upland based on 15% reduction pumping

Distributed based on equal reductions from amt required to meet full irrigation demand in ea area.

11/ac depend on how many acres allocate to. we used —

URNRD	11.3	10.2-10.6
MRNRD	9.0	7.-7.9
LRNRD	9.6	6.5-7.5

QRW area

U	2.8-5.7
m	2.7-5.3
L	2.4-4.8

IMP acreage