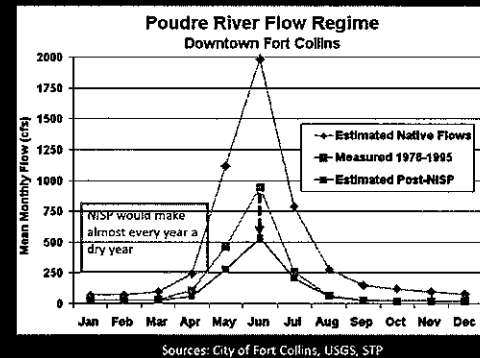


11/2/2011

NISP & Healthy Rivers Alternative

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Western Resource Advocates
October 17, 2011

NISP Impacts: Poudre River Flows



Agricultural Economy Impacts

- Losses from Land Development : 263,000 new residents by 2050 means as much as 48,000 irrigated acres lost to municipal development
- Losses from Farmland Salinity : 3,000 irrigated acres lost (or production curtailed) due to salt build-up
- Losses to Irrigation Water Diversions: 11,000 irrigated acres affected by water that would be diverted by NISP
- Up to \$55 million/year in lost economic activity

Source: NISP DEIS, USGS, USDA
NASS, other sources

Other Project Impacts

- Increased Costs for Wastewater Treatment (\$75-125 million)
- Increased Flooding due to Sediment Build Up
- Impacts to Wildlife:
 - Trout, streamside vegetation & wetlands
 - Invasive Species – fish and trees
- Diminished Recreation:
 - Kayaking, Fishing, Swimming, Tubing, Rafting
 - Birdwatching, Biking, General Aesthetics
- Bottom Line: Impacts To Local Economy

Healthy Rivers Alternative: Three Key Elements

1. Conservation
2. Rotational Fallowing Agreements
3. New Infrastructure

Benefits & Challenges

- ✓ Flexibility
- ✓ Steady income source for farmers
- ✓ Avoid "buy and dry"
- ✓ Establishes long term systems and agreements
- ✓ Broad support
- ✓ Reduces costs
- Legal, engineering, and political challenges remain – legislators can help.

Conservation Savings

- 1% per year for communities, resulting in average water use of 147 gpcd by 2025
 - Severance, Windsor, Lafayette, Fort Lupton, and Evans all below 147 gpcd today
 - Aurora Water: 152 gpcd in 2006
 - Many other western cities <147 gpcd today
- New supply needs in 2025: 19,200 AF (compare to 40,000 AF for NISP)

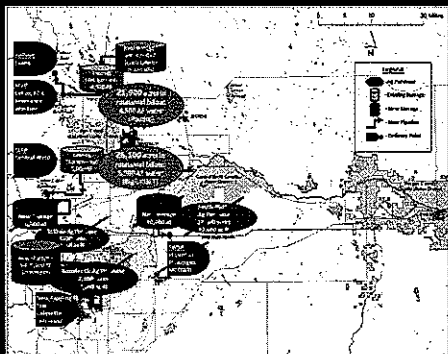
Rotational Fallowing

- Follows model of the Super Ditch in the Arkansas Basin
 - Fields fallowed in 1/4 years
- General support in Ark Basin and in South Platte, according to surveys

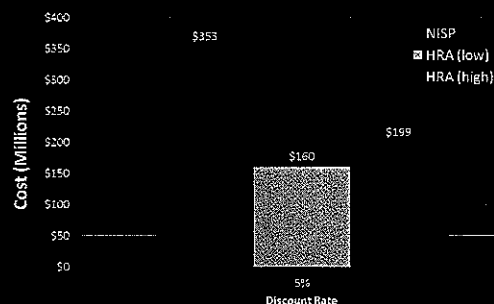
"Water rights holders representing 67 percent of the land and 70-75 percent of the water under seven ditches proposed for inclusion in Super Ditch ... [indicated] they might be interested in selling water through a lease program, said Peter Nichols, water attorney for the district." (Pueblo Chieftain, Jan. 20, 2011)

| Landowner statement | Average Acreage | Percent Acreage | Percent Consent |
|---|--------------------|--------------------|--------------------|
| 1. I am willing to participate in a lease if paid enough | 3,55 | 61.1% | 18.9% |
| 2. I am willing to incorporate a fallow period into my crop rotation if it is compensated enough | 3,88 | 63.0% | 19.0% |
| 3. I am willing to reduce my farm's consumptive water use, rather than growing less or planting less water using crops, in order to fulfill conditions of a lease | 3,19 | 49.0% | 29.0% |
| 4. I am willing to lease my water rights and have junior water rights if suitable compensation | 3,06 | 52.0% | 22.0% |
| 5. I am willing to negotiate directly with a municipality to establish a water lease | 3,21 | 47.5% | 29.1% |
| 6. I plan to sell water rights within the next 5 years | 2,07 | 33.6% | 63.3% |

Rotational Fallowing



Preliminary Costs: NISP and the HRA (2025)



Challenges and Opportunities

- Legal/technical – ditch-wide consumptive use analysis could avoid lengthy and expensive legal and engineering analyses. Use part of reservoir space when only a portion of a ditch company wants to fallow & protect farmers who don't participate in the fallowing program.
- Agreement structure – municipalities need permanent water supply, with opportunity to purchase outright/renew agreement at the end of the lease term. (See Palo Verde agreement structure)
- Rotational fallowing offers additional, long-term benefits to the urban communities, by preserving agricultural land, open space, environmental and community benefits.