DRAFT

Storage Site Characteristics

Cup Gulch with diversion from North Fork Walla Walla

- Will only work with diversion from North Fork; not enough water otherwise.
- Narrow steep canyon; so dam will have to be high.
- Inlet conveyance (for gravity feed) will have to start 3-6 miles upstream, depending upon the height of the dam. Or you have to pump water.
- Water could be released back into North Fork, or conveyed to Cemetery bridge diversion at Milton-Freewater.
- But this diversion will start impacting steelhead; recent information says the NF is an important stream for steelhead. Would need to take a much higher percentage of the hydrograph to fill a reservoir than the South Fork.
- So the most you could probably store in this site is 5,000-7,000 acre feet.
- Would have to look at a higher initial cost with a inlet pipeline and then lower O&M; or pump water, which has a lower initial cost and higher O&M. But the pipeline intake dewateres 3-6 miles of stream.
  Potential-- LOW

Flume Canyon with diversion from South Fork Walla Walla

- Inlet conveyance is around 3-6 miles, depending upon height of the dam.
- Would have to be a high dam, to store a larger quantity of water.
- Consistent flows throughout the year
- Flume Canyon could provide 40% of the possible storage on its own (3,947 acre feet of a 9,169 acre-feet max storage)
- Would provide cold, high quality water.
- Would provide additional rearing benefit from release point downstream until it reaches Milton-Freewater. Benefit here may be marginal as the water in this stream reach is already of high quality.
  Potential-- MEDIUM

Milton-Freewater Foothills

- Divert water from South Fork or North Fork, 4-5 mile intake pipe.
- Probably would not be able to get water from North Fork, due to impacts to ESA steelhead.
- Water would be released to irrigation system, would be a five mile outlet conveyance system.
- Probably would be dam safety issue with public.
- Would have to line dam, because of seepage issues (spendy). Length of dam would be a mile, because it is three sided (spendy)
Potential—MEDIUM-LOW

**Milton-Freewater Field**

- Perception of dam safety will be large issue.
- Would have to eliminate a lot of orchard production
- Real estate costs would be high, over 400 acres.
- Would displace houses as well.
- Water would be conveyed to dam site by using Milton Ditch (which has its own set of problems as a point-of-diversion. CTUIR is currently trying to end Milton ditch as a POD.
- If one landowner in area says “no”, then the whole effort would be moot.
- Dam would have to be lined.

Potential—LOW

**Pine Creek #1**

- Large storage capacity (up to 50k AF)
- Would have to deal with passage issue (currently blocked downstream—will this be remedied?)
- Currently low STS impact. But may want to consider building dam with passage facilities; May have to consider as part of this project restoring fish passage on lower Pine Creek by eliminating barrier at county bridge.
- Where Pine Creek crosses Hudson Bay irrigation district, they have 31% of their use from that point downstream.
- Where Pine Creek crosses Burlingame ditch, Gardena Farms has 75% of their use downstream from that point.
- Both irrigation districts do not use water past late June, early July.
- Could also potentially divert (tunnel?) water over hill toward Milton-Freewater, to deliver water to LWW irrigation system. You may have to pump water up 250 feet of lift (later in the season as pool drops) to get water to that area.
- May be able to provide recreational benefits with dead storage.
- Could also put a second, smaller dam in upper portion of reservoir, to keep some portion of water at a higher elevation.
- Appears to be no buildings of structures in area of reservoir.
- May want to consider a system that would allow water to be taken from reservoir and delivered to MF area, along with water taken from MF area during high flows and delivered to this reservoir.

Potential—HIGH

**Pine Creek #2**
• Advantage that this site has over Pine Creek #1 is that it is higher in the basin, so it may be easier to deliver water by gravity to irrigation systems in Milton-Freewater; but this would require a LONG pipeline to convey to that area.
• The dam itself is higher in height than Pine Creek #1, but would store less water.
• Almost similar otherwise to Pine Creek #1.
  Potential-- MEDIUM

Dry Creek #3

• Would impact dwellings (at least two) for this site.
• To completely capture the 12,598 acre feet capacity, you would need a 200 foot high dam.
• Could take water from Pine Creek and put water in this reservoir.
• Unknown as to fish use in Dry Creek.
• Possibility to take water from here to feed Little Walla Walla Diversion (long outlet conveyance pipeline).
• May have to consider as part of this project restoring fish passage on lower Pine Creek by eliminating barrier at county bridge.
  Potential-- MEDIUM

All Storage sites:

• Will have bathtub rings. Will have higher amounts of sediment, due to the pool level being annually filled up and then drained (as opposed to a constant level of water).
• Look at putting turbines on outlets of all release points to create electricity. This would help to offset O&M costs.