MADISON RANCHES

- Farming on Butter Creek for over 100 years (4 generations).
- 17,000 acre agricultural-farm (8,600 Irrigated) in eastern Oregon.
- Produces Alfalfa, Alfalfa seed, Corn (Seed, Sweet, Grain), Canola, Grass Seed, Yellow Onions, Wheat, Peas, and Beans.
- Intense groundwater development in the area has over-drafted the basalt aquifer (500 foot decline).
- Critical Groundwater Area Declaration by OWRD in 1990 and curtailed groundwater use.
AR/ASR HISTORY ON MADISON RANCHES

- ASR feasibility assessed in 1993 and initiated in 2006
- 1 ASR Well (1960) – approximately 700 ft deep
- Storage aquifer: Columbia River Basalt Group
- ASR Source water: Seasonally available alluvial groundwater
- Storage volume: Up to 170 million gallons – more possible
- Recharge and recovery rate: 1.6 million gallons per day (1,100 gallons per minute)
AR BASINS
COLLECTOR WELL
ASR WELL
CONTROL VALVES
HOW ASR BENEFITS DEFICIT IRRIGATED AGRICULTURE

Water Volume (GPM)

Crop Demand Curves

Irrigation System Capacity

Water Availability

- = Recovery Period
- = Recharge Period

*note: graph not to scale
STRUGGLES AND SUCCESSES

• Since Project inception, Madison Ranches has recharged nearly 2,700 acre feet into the Columbia River Basalts in the Echo Junction Critical Ground Water Area.

• McCarty Ranch has recharged nearly 8,200 acre feet into the Columbia River Basalts in the Echo Junction Critical Ground Water Area.

• Combined recovery between Madison and McCarty of 8,000 Acre feet over the life of the project.

• REGULATORY COMPLIANCE AND MONITORING ARE SINGLE HIGHEST EXPENCE.

• At the mercy of mother nature for AR/ASR source water.

• No snow in the mountains, no water in Butter Creek. Regulatory and monitoring cost are fixed. This results in very high cost per acre foot.
QUESTIONS

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