Milestone 3

Logistics: Turning Concepts into Reality

The next critical step in the process is to assess the ability and means of moving water between potential lessors and lessees. This analysis includes assessing both the physical means of moving water and the legal constraints of participating water rights and governance issues that might impact the movement of water.

Physically Moving Water

The physical conveyance of water is a natural piece of exploring water marketing activities but can become complicated if a direct point to point transfer solution is not identified. Through water exchanges, wheeling agreements, and new infrastructure – there is usually some means of moving water to locations of demand if there is sufficient funding and local support. It is important to have active lines of communication with the local distribution engineer (or equivalent) to lay the groundwork and get informal guidance on how to effectively transfer water supplies in the area of interest.

Some of the key questions around physical water transfers include:

1. **Are there physical or other unique means of moving water from Point A to Point B?**
2. **What existing means of conveyance exist, such as well transfers or local canals?**
3. **What about options for water storage and retiming of supplies?**
4. **Is wheeling water through an existing agricultural or municipal system a possibility?**

Tools to measure and monitor the flow of water are critical. Water users should assess distribution infrastructure like the presence of meters, measuring devices, and telemetry systems to ensure water reaches its intended destination and collect reporting data. State regulators will also be hesitant to approve of water transfers if they don't have sufficient measurements to validate that a water transfer is accurately taking place.

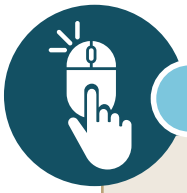
- **Unique Water Management Tools to "Move" Water**
  There are a series of tools that water managers use to convey water supplies from seller to buyer. The most intuitive of these tools are simple physical conveyance mechanisms such as transferring water in a canal, pipeline, or even in a streambed that physically move water from point A to point B. Beyond the simple means of physically moving water, there are also a series of unique water management tools that are commonly applied to get water to go where it needs to go, but do not always involve a direct physical conveyance between two points. These unique water management tools include:

- **Alternate Points of Diversion (including APOD wells)** — this allows a water user to simply change the point of diversion (POD) from an original location to a new location without having to physically connect and convey water from the original POD to the new POD. This practice can include drilling a new well at an alternate POD when leasing groundwater from the same aquifer, or transferring a water right from a surface water source to a groundwater source.

- **Exchange** — this tool allows a water user to divert water from a source at a POD that is upstream from the original POD. Taking water farther upstream can result in reduced streamflow in the stretch of river upstream from the original POD, and therefore an exchange is limited by the "exchange potential" of actual streamflow occurring between the original and new PODs along the river. This prevents injury (reduce available diversions) to intervening diversions that are in the upstream reach.

- **Distribution** — this tool is also called “shepherding” and simply refers to the administrative process of protecting a water right that is being transferred downstream in a natural stream channel from being diverted by other water rights. The process of shepherding water requires the measured flow of a river to be color-coded into categories of natural flow that are available to other water rights and transferred flow that is physically present in the streamflow but is reserved for a downstream water user.
- **Storage Accounting** — this tool is a simple accounting practice that moves water between storage accounts in a reservoir, also called “recoloring” or “book over”. The water stored in a reservoir is typically divided into a series of accounts, similar to a bank account; and water transfers sometimes involve simply moving water between two accounts.

Accordingly, water users should not immediatly feel limited by physical distribution constraints but expand their thnking to see if there are other unique ways to move water.



State Engineer's Website ~~Utah~~ Division of Water Rights

The State of Utah has developed a package of online tools that make it easier to find water rights, see water-related infrastructure, monitor water levels and streamflow conditions, and conduct research on water rights. The following list provides a partial summary of these state tools.

- **Water Rights Database**
- **Map Viewer**
- **Water Use and Streamflow**

Legally Moving Water

Beyond the logistics of physically moving water to its desired end use, there are also questions around legally being able to do so. The system of water rights in Utah provides important certainty around how the State will manage and allocate its water resources to users, and provide protection against injury from the actions of other water right holders. It is important potential water market participants understand these issues prior to moving ahead with a water transaction.

- **Ownership and Corporate/Contract Constraints**: Who owns the water at issue? Are these independently owned fee water rights, shares in an irrigation company, or contract with a wholesaler? Determining ownership will dictate what corporate or contractual constraints participants will need to address to move the water.
- **No Expansion of Use**: A proposed water right transfer is not allowed to result in more water being used than has historically been used. For example, transferring a supplemental water right to a new location to be used as a primary supply while also continuing to use the primary right(s) at the original location is not legally allowed. Similarly, if a water right historically used 70% of what was allowed under the right, then that water right should not result in 100% use of the right in its new use after transfer. This limitation on expanding the exercise of water rights protects other water right holders from experiencing reduced supplies as a result of a water transfer. It is important to understand and quantify the historic use of a water right or "wet" water for the purpose of transfer, and not to rely solely upon the "face value" of a paper water right.

- **No Speculation**: A proposed transfer must define, in specific detail, the purpose, place, and type of new use. That new use must also be legally allowed under state law. This requirement is to prevent water users from hoarding water rights and speculating on a public good. Municipal water utilities have been granted flexibility regarding speculation, allowing them to acquire water rights that are projected to be needed within a future 40-year timeframe.
- **Priority Administration**: Transfers of water rights must abide by the same prior appropriation system that applies to all water rights. In practice, this means assessing how available the desired water supply is based on priority and hydrological conditions and whether a Change Application, which can affect the date upon which water is distributed, will impact a transaction.

Accordingly, interested market participants must address whether a water right is both physically and legally allowed to move under the proposed transaction.