

## Social and Environmental Health

What does “**social and environmental health**” mean regarding the Upper Platte River Basin?

- Sustainable water supplies to support a diverse economic system with jobs across multiple sectors, while maintaining river flows to support healthy ecosystems.

### Social

- Ample supplies for all uses to support the urban and rural communities in the basin and their quality of life
- Achieving the goals of fully appropriated does not jeopardize users or specific user groups

### Environmental

Regulatory - Helps meet the requirements of the LB 962 and the PRRIP agreement

Recreational - Use of basin water resources for entertainment, boating, fishing and swimming, etc.

Water Quality - Clean, sustainable water meeting required standards for use - human and natural pollutions sources managed

Ecosystem - Water supplies suitable to maintain basin species

Water Supply - Maintain a level of water supply that supports the minimum necessary to maintain these benefits.

Sustainability - Is it still viable now and will it continue to be viable in the future

What metrics could we use to determine if the basin is **socially and environmentally healthy**?

- Recreation water reliability is maintained or increases under varying supply conditions (wet/dry/normal); measured by recreation user days within the basin
- Minimum flows targets necessary for ecosystem function are being met under varying supply conditions (wet/dry/normal); Periodic habitat analysis for status, overall health and impacts to plant communities, fish, wildlife, T&E species etc.
- Availability, stability, sustainability, and diversity of job opportunities in basin communities
- Maintaining basin demographics (populations, % of graduates staying in area, children staying on the farm, diversity, services, jobs, etc.).
- Water quality testing (surface water and groundwater) for contaminants; tracking of waterborne illness incidences
- Survey of Nebraska residents on how they perceive the current status of the river and how it is managed

How/when is **social and environmental health** vulnerable to water shortage? How much water is necessary to maintain it?

- Always vulnerable – basin uses are currently exceeding basin supplies
  - Drought or water shortage conditions that: 1) impact domestic/municipal users; 2) reduce recreation availability; 3) impact habitat; 4) compound water quality issues; 5) Impact Ag production
- Adequate (and affordable) water needed to meet/maintain Ag, municipal needs/growth, ecosystem needs, recreation uses, basin water quality

## Safety

What does “**safety**” mean regarding the Upper Platte River Basin?

- Fire Suppression and Flood Protection
- Drinking Water – Adequate and sustainable supply and quality
- Adequate recharge of aquifer to protect water quantity, uses, and water quality
- Management of storage - Un-necessary releasing of water from reservoirs; quick filling of reservoirs which may cause high flow rate releases.
- Contingency water supply (i.e. SW/GW storage) for emergency situations
- Public health, wildlife health could be effected, as well as food products, cattle, crops. Shortage in food is also a safety concern
- Structural integrity of existing dams and canal systems, preparedness for disasters

What metrics could we use to determine if the basin is **safe**?

- Drinking water and fire suppression is reliable even in drought
- Operation and inspection plans of reservoir/canal systems
- Water related Injuries/deaths/insurance claims (flooding/water quality)
- River, reservoir and groundwater levels
- Trends in flood/disaster losses, management/maintenance of floodways

How/when is the **safety** of the basin vulnerable to water shortage? How much water is necessary to maintain it?

- Always in times of drought/water shortage
- When there is not enough water in storage (SW and GW)
- Shortages can undermine structural integrity of facilities, e.g. dams, canals

## Welfare

What does “**welfare**” mean regarding the Upper Platte River Basin?

- Manage water resources to maintain quality of life for all users
- What level of water and environmental degradation is acceptable for the socioeconomic benefits of water use
- Similar to social/environmental health

- Overall physical health and economic health maintained.
- Maintaining/sustaining basin economy
- That achieving the goals of fully appropriated does not put a user or user group in jeopardy
- Overall, highly subjective, well-being of basin populations

What metrics could we use to determine if the **welfare** of the basin has been maintained?

- Maintaining or increasing water supply reliability and availability to all users
- Historic population and business census.
- Happiness, low crime, business growth, population growth, etc.
- Tough based on many variables (non –water) that affect welfare

How/when is the **welfare** of the basin vulnerable to water shortage? How much water is necessary to maintain it?

- When interests of one group prevent H2O use of other groups.
- During shortage the basin uses still need to be maintained.
  - Lite snow pack
  - Drought and peak use seasons
- When decline in Ag production cannot (fund) maintain its population that point of decline will become pronounced.
- When artificial measures (storage, restrictions, redirection, etc.) cannot offset/maintain long term basin welfare
- Instead of the absolute of equity/ equality what about a more fluid concept of balancing and recognizing changes occur