

Appendix 2: Water User Role Cards

Role 1: Farmer (Crop Irrigation)

- **Water Needs:** 30,000 gallons of water per day
- **Responsibilities:** You manage a large-scale crop farm, growing crops such as corn, soybeans or wheat. Irrigation is crucial for maintaining crop health, especially during dry periods. Without sufficient water, your crops may wither, leading to crop loss and financial hardship. While irrigation systems like center pivot or drip irrigation can help conserve water, they still require large amounts of water to operate effectively.
- **Negotiation Focus:**
 - You need enough water to irrigate your crops and maintain healthy soil.
 - During a water shortage, you'll need to argue for as much water as possible to avoid crop failure.
 - You may be willing to cut back on water use if other sectors (e.g., residential or industrial) are in need, but you're concerned about the potential impact on your farm's productivity and future food supply.
- **Challenges:**
 - Crops are highly dependent on a consistent water supply, especially during peak growing seasons.
 - Reducing irrigation may result in a significant loss of crops, impacting local and regional food supplies.
 - Water shortages can affect both crop yields and long-term soil health.

Role 2: Livestock Producer

- **Water Needs:** 15,000 gallons of water per day
- **Responsibilities:** You manage a local livestock operation, which may include cattle, pigs, chickens or other animals. Animals need water for drinking, cooling and maintaining overall health. Water is also used in cleaning the animals' living spaces and managing their waste. If animals do not receive adequate water, they may become dehydrated, sick or even die, causing significant financial losses.
- **Negotiation Focus:**
 - You need water to keep your animals healthy and hydrated.
 - You may be willing to cut back on water usage in areas that don't directly affect animal health (like, cleaning or cooling) but cannot compromise on basic hydration needs.
 - You may need to advocate for specific water-saving methods such as rainwater harvesting or recycling water for cleaning in order to meet all your needs.
- **Challenges:**
 - Lack of water can lead to sick or dying livestock.
 - Water is needed for multiple purposes in your operation, making it challenging to reduce water use without negatively affecting the animals' health and well-being.
 - The balance between reducing water use and maintaining animal health is critical for you.

Role 3: Homeowner

- **Water Needs:** 2,000 gallons of water per day
- **Responsibilities:** You live in a residential area and use water for daily activities such as drinking, cooking, cleaning, bathing and maintaining your backyard garden. Water is also essential for washing clothes and running appliances. In a water shortage, reducing personal consumption becomes necessary, but access to clean water for your basic needs must be prioritized.
- **Negotiation Focus:**
 - You need water for essential household needs, including hygiene and food preparation.
 - You might be willing to reduce nonessential uses (like gardening, excessive water use in showers, etc.) to ensure everyone's basic needs are met.
 - You could also suggest using water-efficient appliances or technologies in the home, such as low-flow faucets or drought-resistant landscaping.
- **Challenges:**
 - You may need to make significant lifestyle changes (like reducing shower times or laundry loads) in order to conserve water.
 - The balance between conserving water and maintaining a comfortable, functional home can be difficult to achieve.

Name: _____

Role 4: Water Utility Worker

- **Water Needs:** 50,000 gallons of water per day (for the entire community)
- **Responsibilities:** You manage the distribution of water throughout the community, ensuring that all sectors—homes, farms, schools and businesses—have access to the water they need. Your responsibility is to make sure the water is allocated efficiently and fairly. You also monitor the infrastructure for leaks and waste, which can be a significant source of water loss.
- **Negotiation Focus:**
 - You are responsible for ensuring that water is evenly distributed and that no sector uses more than their fair share.
 - You may need to advocate for water-saving technologies in the community's infrastructure to reduce waste.
 - You may need to prioritize water for homes and hospitals while finding ways to reduce industrial and agricultural water needs.
- **Challenges:**
 - Managing and distributing water equitably can be challenging when resources are scarce.
 - You must balance competing demands from residents, businesses and agriculture.
 - Water infrastructure (pipes, storage tanks, etc.) may not be able to handle severe shortages, making system failure a concern.

Role 5: School

- **Water Needs:** 5,000 gallons of water per day
- **Responsibilities:** The local school requires water for students' hygiene, food preparation and general cleaning. A school with a large student body needs a steady supply of water for bathrooms, cafeterias and cleaning purposes. If water is not available, the school may need to close temporarily, which can have a major impact on the students' education.
- **Negotiation Focus:**
 - You need water to keep the school running, as it's essential for both sanitation and food service.
 - You may have some flexibility in terms of reducing water usage in areas like washing dishes or cleaning, but you cannot completely eliminate water for hygiene or food preparation.
 - You might consider implementing water-saving measures like water-efficient toilets or sinks in school bathrooms.
- **Challenges:**
 - The health and well-being of students must be a priority, and that requires a consistent water supply.
 - Reducing water may lead to a decrease in cleanliness and overall student comfort.
 - Finding ways to conserve water while keeping the school operational can be difficult.

Role 6: Industrial Factory

- **Water Needs:** 10,000 gallons of water per day
- **Responsibilities:** The factory uses water for industrial processes such as cooling machines, cleaning and even cooling down materials in some manufacturing processes. While not as critical as water for crops or livestock, reducing factory water usage can lead to production delays or stoppages, which could have economic consequences and impact the jobs in the community.
- **Negotiation Focus:**
 - You need water to maintain your factory's productivity and keep operations running smoothly.
 - You may be able to implement temporary water-saving measures, such as recycling water used in the factory, but a complete shutdown of water could lead to financial losses and unemployment.
 - You can argue that conserving water in the factory will help avoid widespread economic disruptions.
- **Challenges:**
 - The factory must balance water use with production needs. Cutting back too much can impact product output and worker safety.
 - The factory might need to implement technology like closed-loop cooling systems or other water-recycling methods to reduce its reliance on fresh water.

Name: _____

Role 7: Power Station

- **Water Needs:** 20,000 gallons of water per day
- **Responsibilities:** The power station uses water primarily for cooling systems to keep turbines and other machinery from overheating. Cooling requires large amounts of water, and without it, the power station could experience equipment failure, leading to power outages. Power is essential for homes, schools, hospitals and industries, making electricity production a critical service during a water shortage.
- **Negotiation Focus:**
 - You need enough water to keep the cooling system running and avoid power outages.
 - You may be able to reduce energy production temporarily, but this could affect the community's access to electricity, so finding a balance is crucial.
 - You may suggest alternative cooling technologies or temporary reductions in energy output to help conserve water.
- **Challenges:**
 - Water is critical for cooling and power production, but the community may argue that other sectors, like agriculture or homes, need water more urgently.
 - Maintaining a consistent water supply is key to keeping electricity running without disruptions, but this could lead to conflicts with other groups' water needs.