Welcome to Pasture Management 101 Virtual Workshop series provided by Skagit Conservation District in partnership with WSU Skagit County.

Funding for this program is through a PSP Near Term Action hosted by Washington State Department of Health supported by EPA National Estuary Program to maintain healthy and productive shellfish beds in Skagit County.

Spring and Summer workshop series:

May - What does a healthy pasture look like, and how do I make my pasture look like that!

June - Are they weeds or are they food? Why do I have more weeds than grass

July – Livestock Watering

August – Now that it is dry what should I be doing? (Harrow, fertilizer, ditch plugs, mowing)

September – Can I really collect rain water off of my roof and use it on the farm?

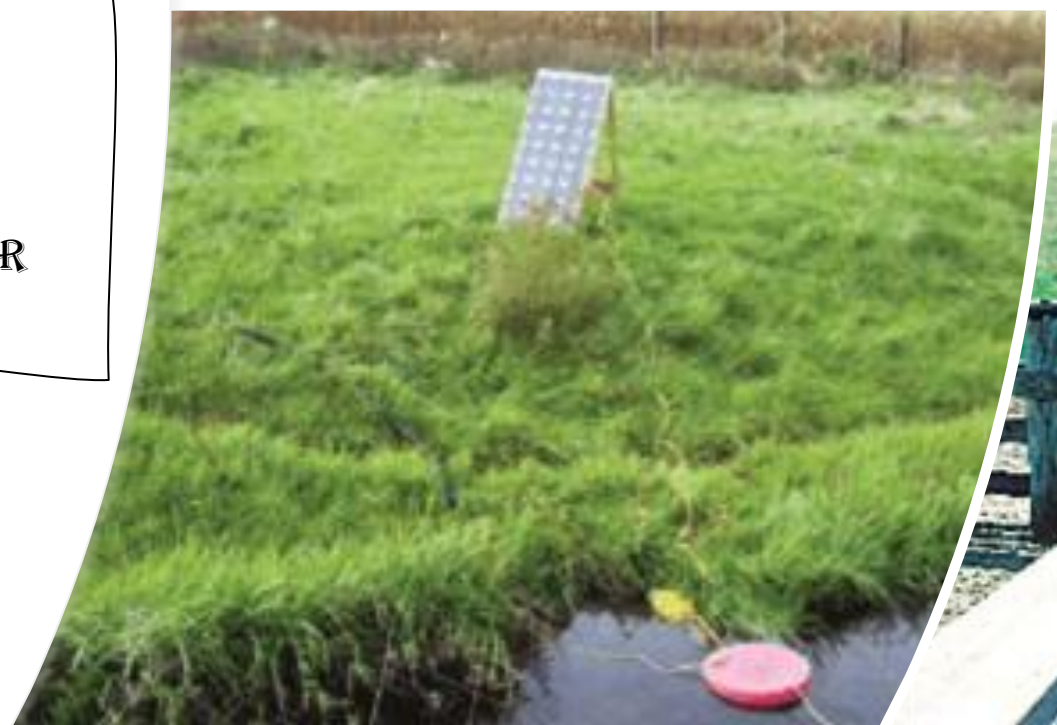
Monthly Farm Planner

July

Livestock Watering Systems

MONTHLY FARM PLANNER

- **JULY**
  - LIVESTOCK WATERING FACILITIES
  - PASTURE MANAGEMENT FOR JULY



WATER Source Hazards

Livestock need access to clean drinking water

- Maintain production performance
- Prevent spread of pathogens from other animals to livestock and between livestock groups
- Manure buildup is a common source of livestock water contamination and increase the likelihood of pathogenic bacteria being spread amongst livestock
- Inorganic contaminates, such as sulphates, in water sources can lead to decreased water intake. Having “bad smelling” or unpalatable water discourages livestock to drink from the water source

- # Common Waterborne Pathogens that can affect Livestock:

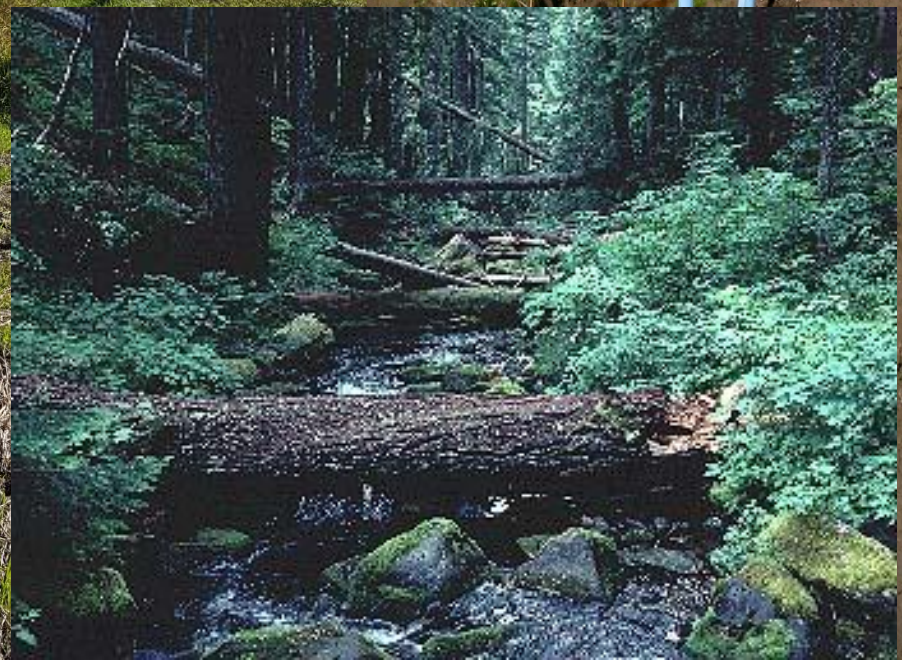
  - Leptospira interrogans
  - Fusobacterium necrophorum
  - Clostridium botulinum - botulism
  - E. coli
  - Salmonella
  - Campylobacter jejuni
  - Cryptosporidium
  - Giardia
  - Liver Flukes

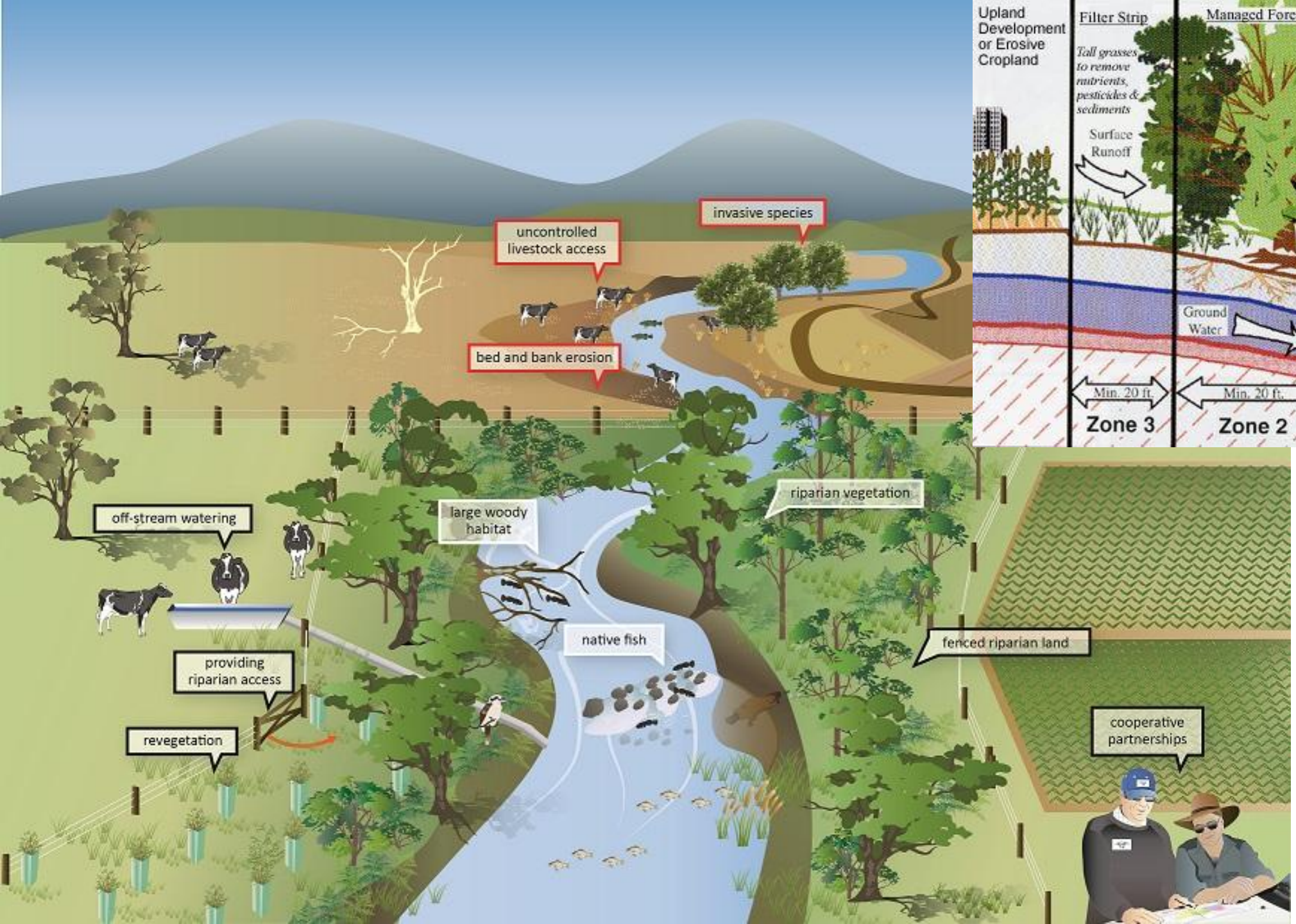
- Stagnation of water sources can impact animal health

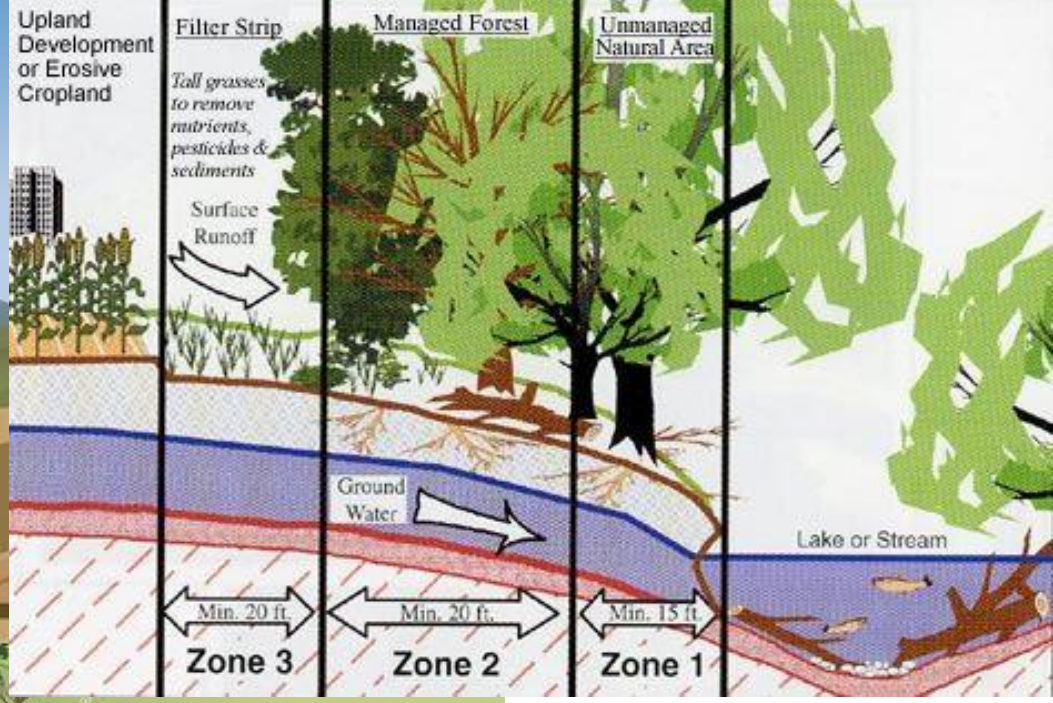
  - Provide habitat for aquatic breeding biting insect that may act as disease vectors (mosquitos - West Nile virus

  - Stagnation along with high nutrient content in water can lead to algae blooms that can be toxic to livestock

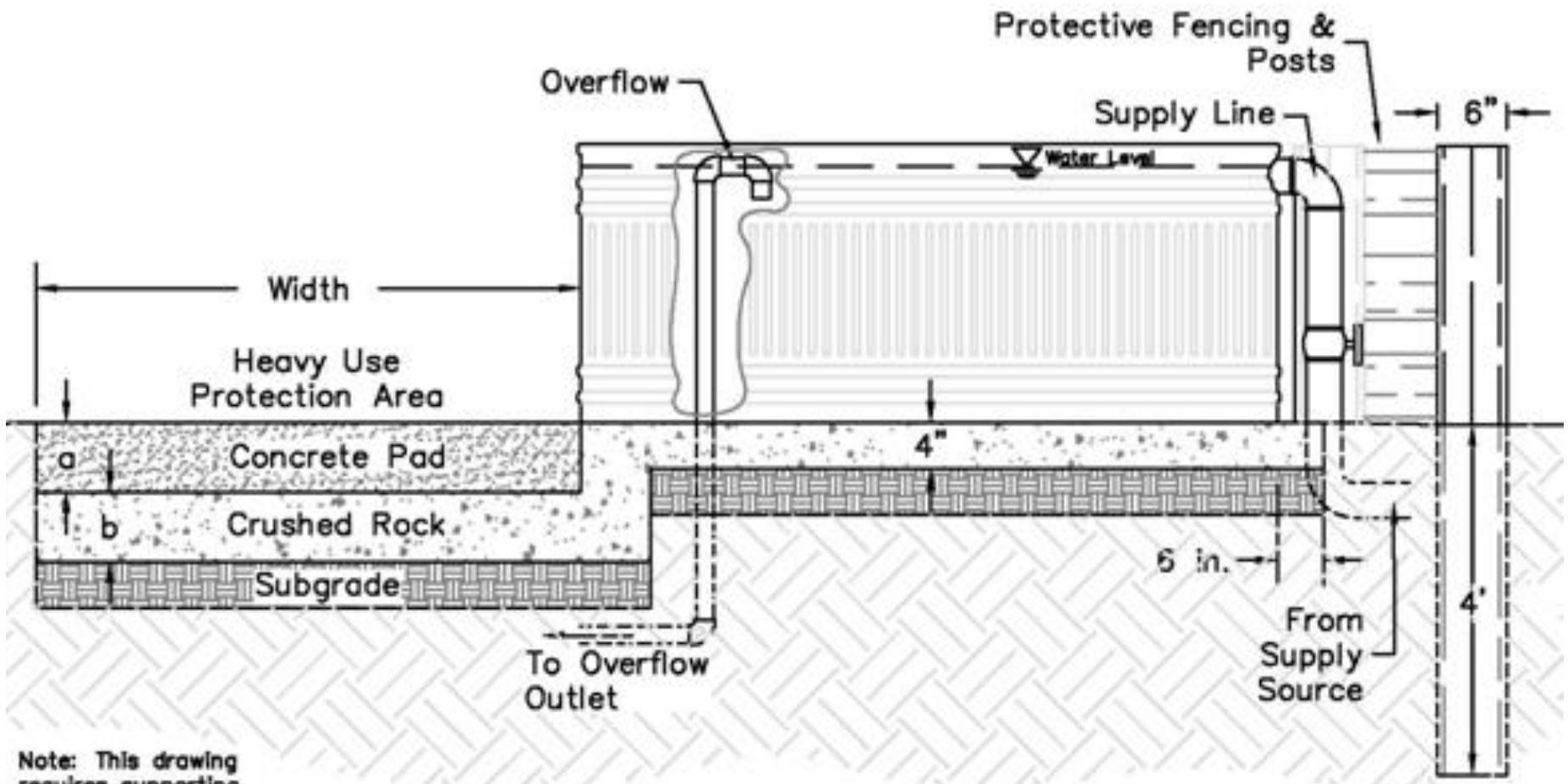
RIPARIAN EXCLUSION




uncontrolled livestock access
invasive species
bed and bank erosion
off-stream watering
large woody habitat
riparian vegetation
native fish
providing riparian access
revegetation
fenced riparian land
cooperative partnerships


Upland Development or Erosive Cropland
Filter Strip
Tall grasses to remove nutrients, pesticides & sediments
Managed Forest
Unmanaged Natural Area
Surface Runoff
Ground Water
Lake or Stream
Min. 20 ft.
Min. 20 ft.
Min. 15 ft.
Zone 3
Zone 2
Zone 1

Watering Facility
Livestock Watering



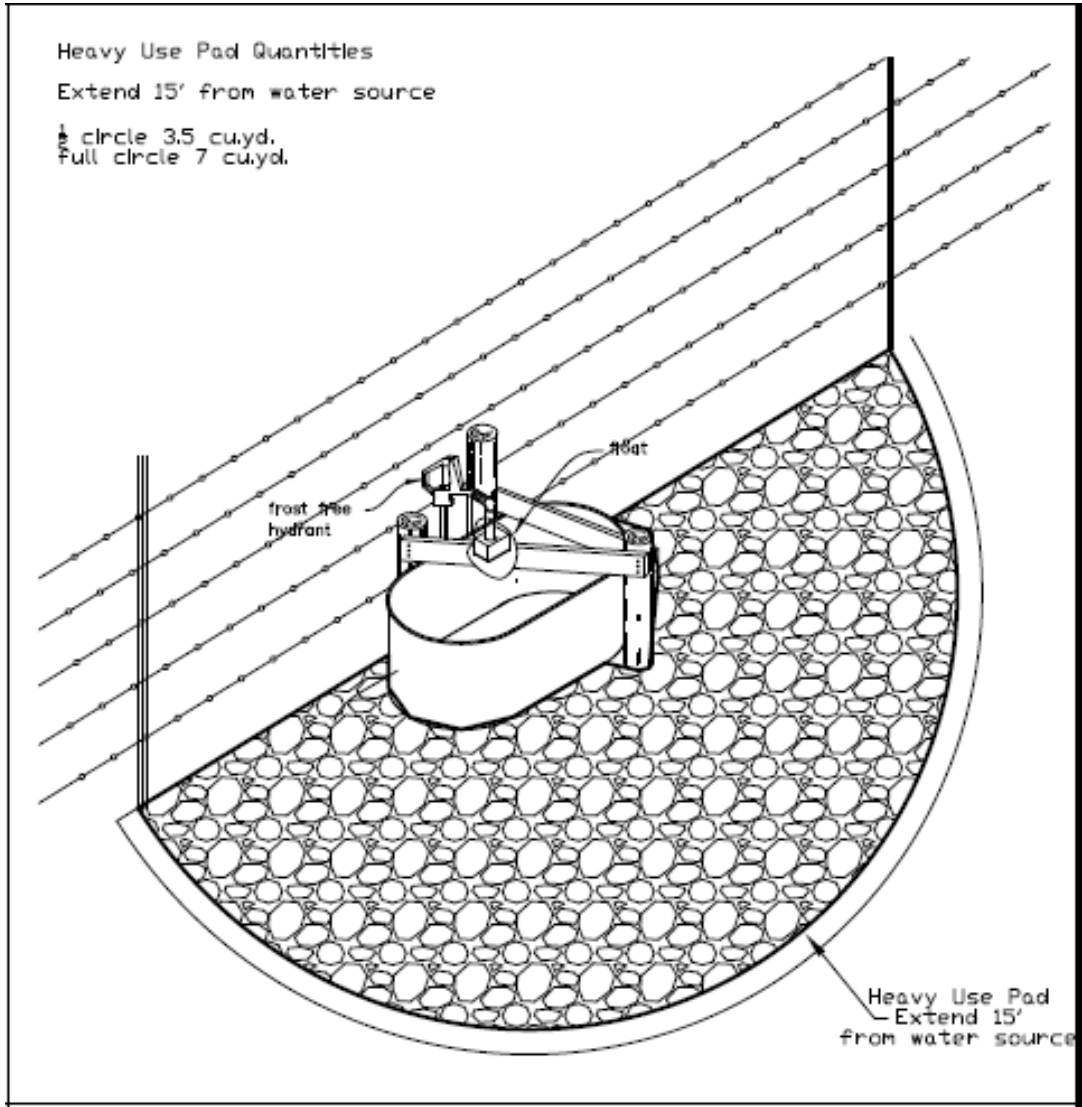
Note: This drawing requires supporting technical documentation and must be adapted to the specific site.

Not To Scale

Watering Facility Guidance

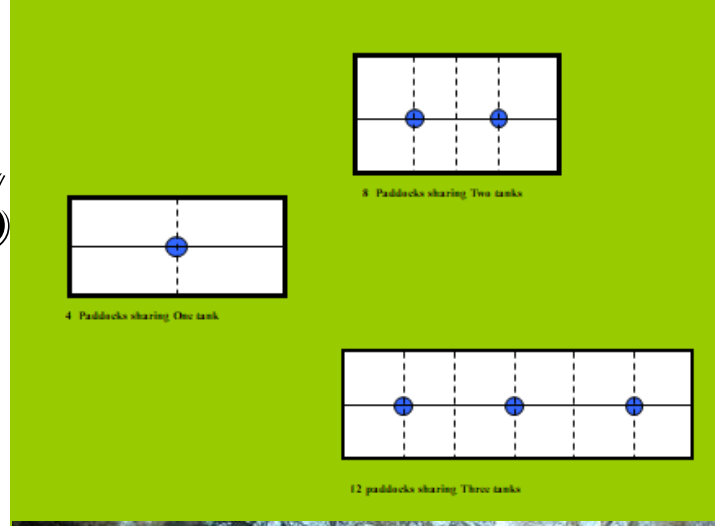
- Locate troughs on high ground with good drainage
- For permanent troughs, the surrounding area should be protected
- Livestock prefer to put muzzles in water at least 2 inches

Animal	Gallons water	Range
Dairy Cow	20	(15-25)
Beef Cow Pair	15	(12-20)
Yearling	10	(6-14)
Horse	10	(8-14)
Sheep	2	(2-3)



Tank Sizing Considerations

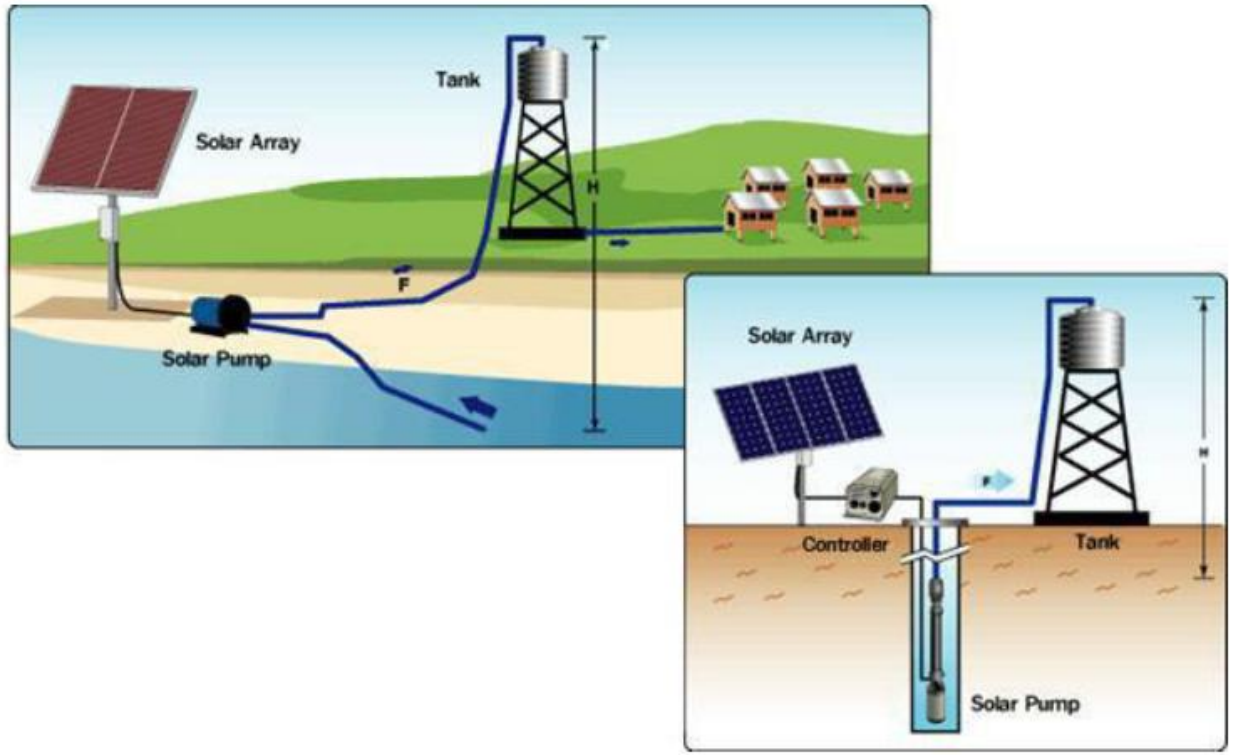
- Flow rate should allow for >10% of herd to water at once
- Allow herd to get total daily water over 4-6 hours
- Entire trough should fill within 1 hour
- Minimum 2 foot wide trough
- Maximum trough height is 13in for lambs, 15in for sheep, 18in for calves, 20in for cows/horses

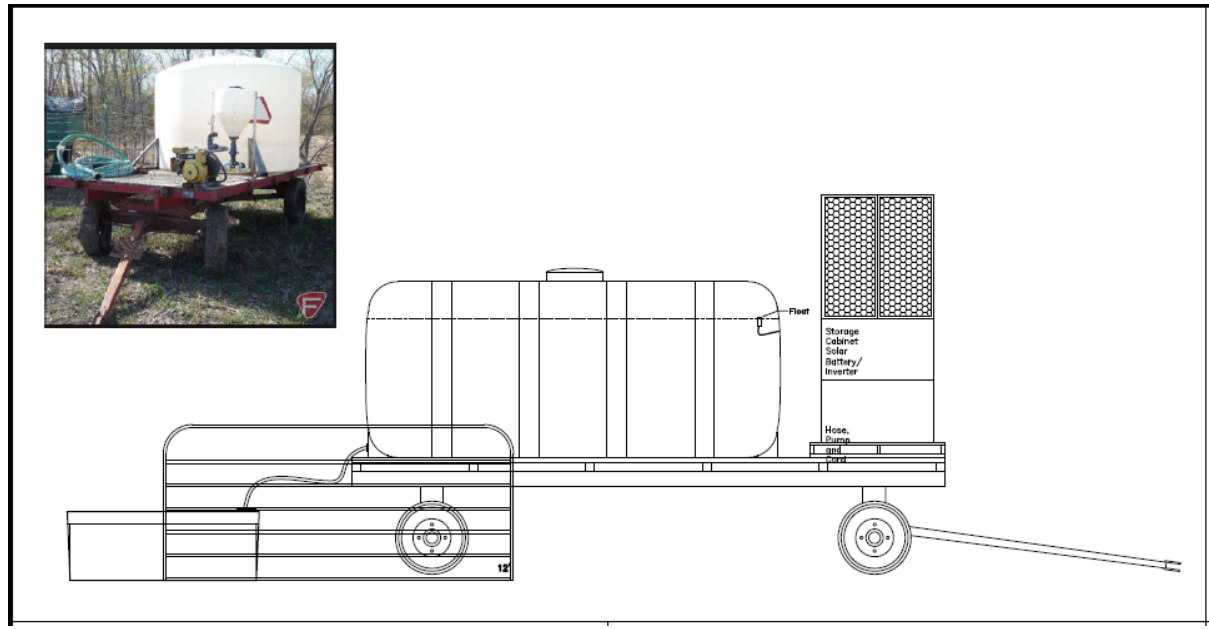


NOSE PUMPS

SEASONAL MAINTENANCE

Solar Powered

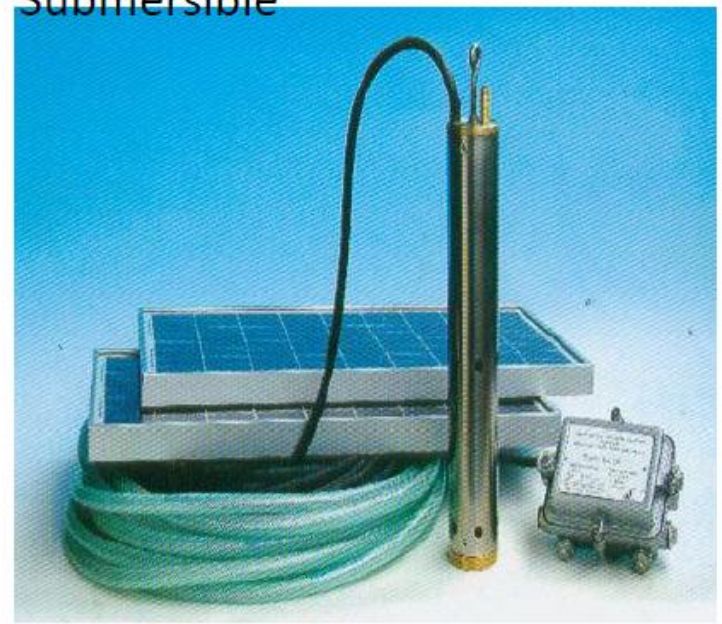




Solar Powered

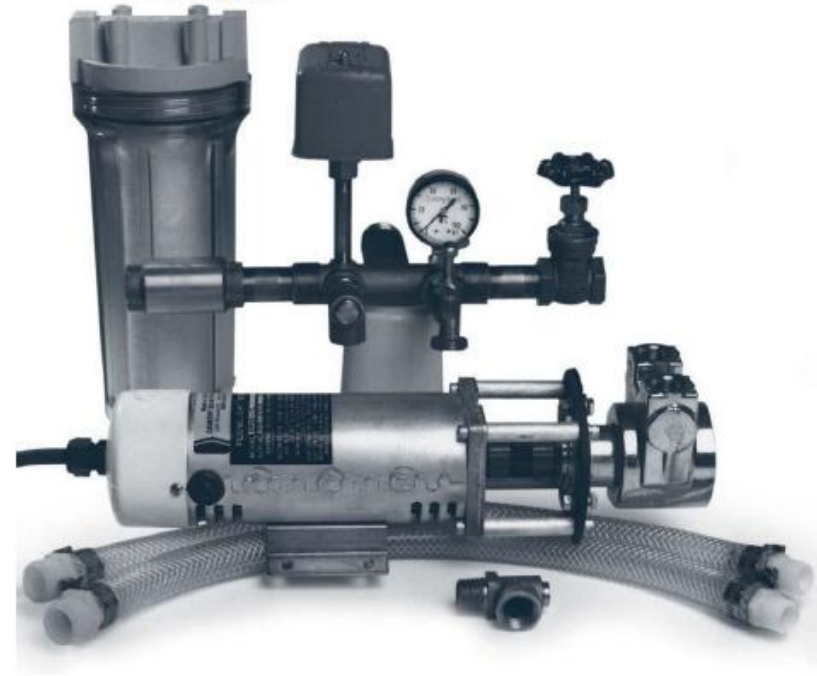
Pump Types

Submersible



Floating

Surface



POL-1025 WATER RESOURCES PROGRAM POLICY

Resource Contact: Policy and Technical Support Effective Date: 10/7/94Section

Revised: NEW

References: Chapters 90.03 and 90.22 RCW

POLICY FOR CONVEYING STOCKWATER AWAY FROM STREAMS TO PROTECT WATER QUALITY

Purpose: To provide a simple, consistent response to water right related issues when conveying stockwater away from streams to protect water quality and stream habitat.

Application: This policy applies to all water resource staff when responding to inquiries or inspecting diversions intended to remove livestock from streams for the purpose of protecting water quality and stream habitat. This policy does not apply to stockwatering relating to feedlots and other activities which are not related to normal stock grazing land uses.

1. ECOLOGY SHALL ENCOURAGE CONVEYANCE OF STOCKWATER AWAY FROM STREAMS FOR THE PURPOSE OF PROTECTING WATER QUALITY. Ecology encourages the diversion of livestock from streams to meet water quality and improve vegetative zones associated with stream banks. Small amounts of water may be diverted (screened and piped) to nearby stockwater tanks for consumption by livestock. If a float or demand type valve is not used, the tank overflow must return to the same source, at or near the point of diversion. The stock tank must serve stock which normally range that parcel of property. The quantity consumed from the stock tank should not exceed the quantity consummed if the stock drank directly from the stream.

2. 2. SYSTEMS DESIGNED TO CONVEY STOCKWATER TO A STOCK TANK MUST HAVE A MINIMUM IMPACT TO THE BYPASSED REACH OF THE STREAM.Stockwater tanks shall be located close to the surface water source, and have as short a bypass reach as possible, while affording protection to the water body, stream bank, and associated vegetative zone.

The decision to divert stockwater from the stream and into a tank does not constitute an adjudication of any claim to the right to the use of the water as between the claimant and the state, or as between one or more water use claimants and another or others.

What to Avoid

INLET

OUTLET

OVERFLOW

*Continue to Rotate, Clip, and Drag pastures!

*Check for erosion where livestock congregate and move Feed, Water and Mineral Block away from gates.

*This will better evenly distribute nutrients.

*Plan for a winter confinement area and areas where potential manure and mud issues.

*Stay vigilant on weed control. It’s imperative to keep weeds from going to seed.

*This is a great time to purchase additional feed that could be needed in the winter.

Thank you

Questions?

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