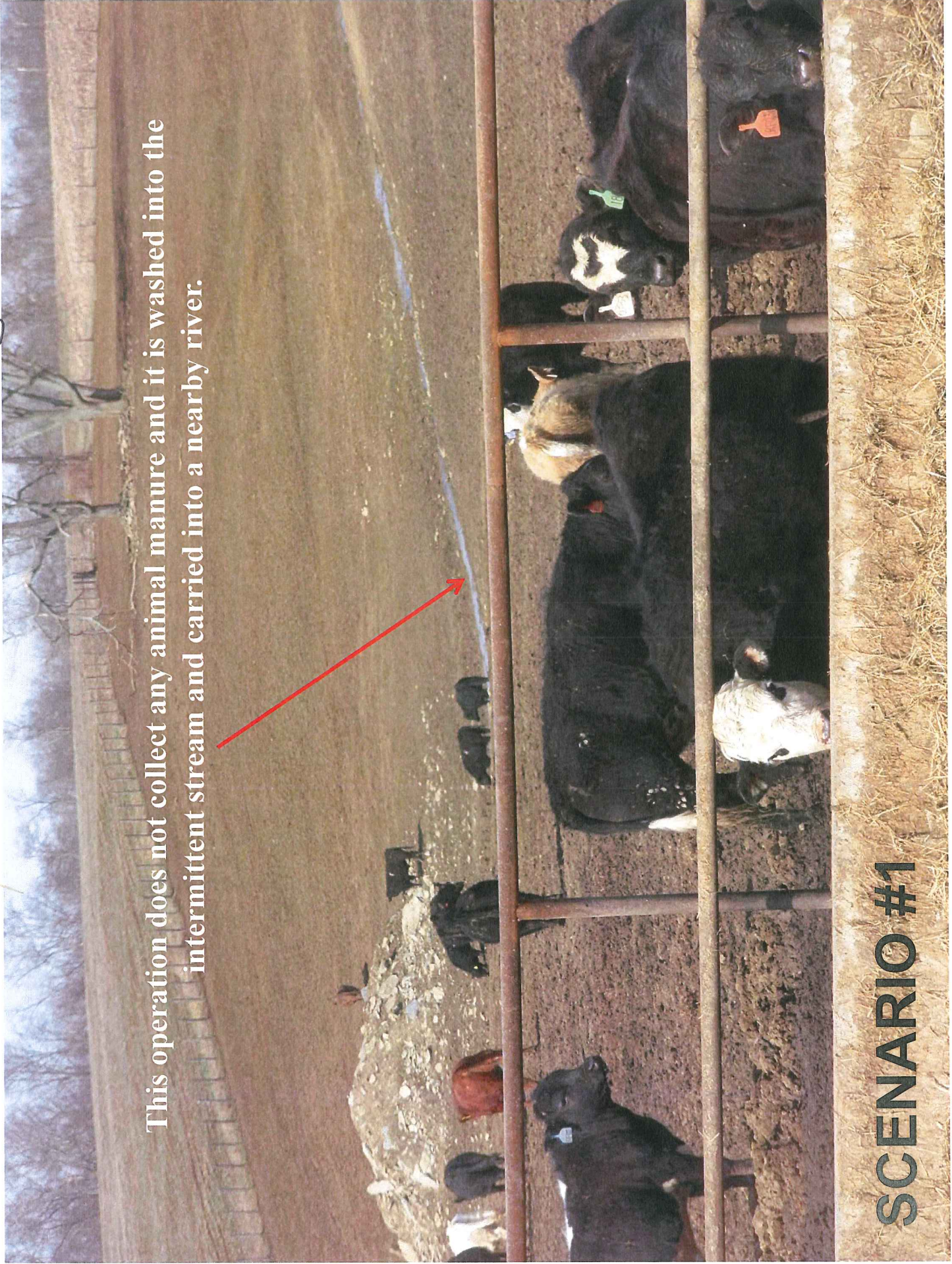


keys

This operation does not collect any animal manure and it is washed into the intermittent stream and carried into a nearby river.



SCENARIO #1



## SCENARIO #1

*Check the correct statement.*

*Mark only one .*

☐

A. The current management of animal waste does not harm the environment in any way.

☒

B. The current management of animal waste causes water quality degradation and a is threat to human health.

☐

C. Adding more cattle to the feedlot would improve the plant growth due to more nutrients being available to the grass through additional manure.

☐

D. Seeding the feedlot with a fast growing grass would solve all water quality and erosion problems, even if the cattle numbers are greatly increased.

The example operation does not collect any animal manure. It is washed into the intermittent stream and carried into a nearby river. The conservation planner presented an alternative to the landowner to keep cattle on the concreted area full time and construct a roof over the area with concrete curbs to contain all animal manure and collect it daily. Manure will be spread on crop fields based on the crop's nutrient needs.



**SCENARIO #2**

## SCENARIO #2

What are the environmental and economic benefits gained from changing this operation into a full confinement feedlot?

*Check all correct answers.*

- ☒ A. Nutrients and pathogens will not leave the farm through runoff to contaminate our water resources.
- ☒ B. The farm will have a higher profitability because the cattle will gain more weight sooner if confined and are not walking in muddy surfaces outside.
- ☐ C. The farm will reduce its feeding costs if animals are fully confined to the barn and are not utilizing the pasture for grazing at all.
- ☒ D. Removing cattle from steep slopes with no vegetative cover will greatly reduce soil erosion.

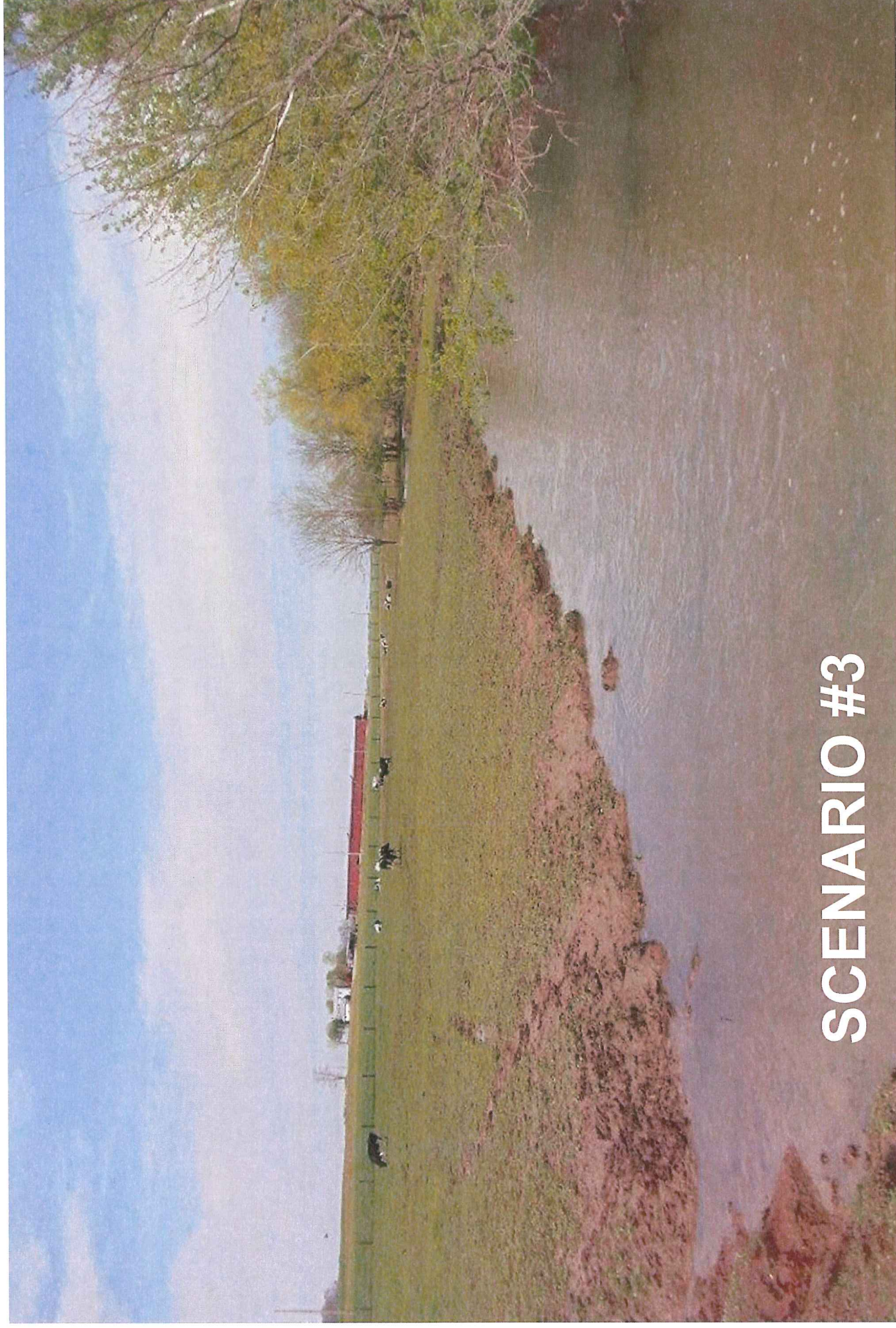
## SCENARIO #2

What are the negative consequences from changing this operation into a full confinement feedlot?

*Check all correct answers.*

- ☒ A. The operation will need more management and have a higher labor cost if converting to full confinement with manure collection and spreading.
- ☒ B. If converting to full confinement the farm will have to make a large investment to construct the feed barn and to purchase a manure spreader.
- ☐ C. The farm will reduce fertilizer costs if animal manure is collected and spread on crop and hay fields at agronomic rates and in an environmentally sound way.
- ☐ D. By conversion to full confinement, the operation will have lower energy costs.

A dairy heifer raising operation feeds the livestock in the barn but cattle have free access to the pastures and to the stream. The livestock drinking water source is the stream.



**SCENARIO #3**

## SCENARIO #3

*Check the correct answer. Mark only one.*

- ☐ A. The current management of the operation does not harm the environment in any way.
- ☒ B. The current management of the heifer operation causes water quality degradation and threats to human health.
- ☐ C. Fencing livestock from the stream and installing a watering trough hooked up to the city water would degrade the herd health due to the effects of chlorinated water.
- ☐ D. Reinforcing the stream banks with 6" thick crushed stone where livestock are accessing the stream would eliminate all water quality concerns.

This dairy operation has poor manure management.  
Liquid manure is flowing off the farm to an adjacent vineyard.  
Cattle are standing in liquid waste for extended period of time.



**SCENARIO #4**

## SCENARIO #4

*Check the correct answer. Mark only one.*

- ☐ A. The vineyard is benefiting from the waste runoff by getting free nutrients such as phosphorus and nitrogen.
- ☐ B. The dairy cows prefer standing in liquid waste in hot summer months to keep their body cool. This will improve herd health.
- ☐ C. The liquid waste will seep into the soil soon and will improve the soil health by introducing high volume of organic matter.
- ☒ D. The uncollected liquid waste in the livestock loafing area is damaging to the environment and may cause high somatic cell counts in the milk.

Poultry manure is piled on the edge of a crop field for over four months until it is spread and incorporated into the soil for a subsequent corn crop.



**SCENARIO #5**

## SCENARIO #5

*Check the correct answer. Mark only one.*

- ☐ A. The adjacent woodland is benefiting from the poultry manure runoff by receiving nutrients such as phosphorus and nitrogen that will enhance timber growth.
- ☐ B. The poultry manure pile on the edge of field is a best management practice (BMP) that creates an environmentally friendly compost that acts like a slow release fertilizer.
- ☐ C. The neatly built poultry manure pile enhances the aesthetics of the farm; compared to a farm where the piles are randomly dumped all over the field.
- ☒ D. The large amount of poultry manure piled on the field for long periods of time create an environmental hazard for groundwater and nearby streams.

## SCENARIO #5

What are the negative consequences if the farm builds a covered manure storage facility instead of storing the manure on the edge of fields?

*Check all correct answers.*

- ☒ A. The operation may require more management and maintenance costs if a manure storage facility is built and maintained.
- ☒ B. The farm would have to make a large financial investment to construct the manure storage facility.
- ☐ C. The farm may reduce its fertilizer costs if the manure is stored under a roof and nutrients are not washed away from the manure piles by rainfall.
- ☐ D. The poultry manure will remain dry in a manure storage facility and therefore will be easier to manage when handling and spreading on cropland as fertilizer.

**SCENARIO #6** Beef cattle have full access to this perennial stream and animal manure is deposited into the stream channel throughout the year.



## SCENARIO #6

What are the consequences if fences are built to keep cattle out of the stream and a 50 foot wide vegetated buffer is established on both side of the water body?

*Check all correct answers.*

- ☒ A. The operation would have to construct watering facilities to give an alternate water source for the cattle and this could improve herd health.
- ☒ B. Fencing the cattle out of the stream would greatly decrease the pathogen and nutrient pollution to the water body.
- ☐ C. The cattle would suffer from hoof problems if they could not wash their feet in the stream every day.
- ☐ D. Manure deposited into the stream enhances all aquatic wildlife habitat by introducing essential nutrients such as phosphorus and nitrogen to feed microbial organisms.