

# An Observational Study on Biodiversity

For Natural Dairy Products Corp.

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Biodiversity is the variety among living organisms and their processes within ecosystems. Species diversity or biodiversity is a key component to healthy ecosystems. Organic farming practices utilize nature in environmentally friendly methods that allow for vital biodiversity to persist. The objective of this study is to observe and document the biodiversity present on a sample of farms in Lancaster and Chester County area.

### ***Organic Farming Practices:***

**Organic farming practices utilize nature to assist in farming.** This is evident in methods such as using hedgerows to provide natural borders and help increase production. Trees used in hedgerows put off pollen which has protein and nitrogen that aids in plant production. Vegetation in hedgerows can be beneficial in a number of ways; for example willow is a natural aspirin, honeysuckle aids in cow's digestion and multi-flora rose is high in vitamin C. Use of plant life can increase soil nutrients; foliage composting back in the soil and other plants such as clover can be used as nitrogen fixers for the soil. Natural methods can also help control pests such as the use of bird houses on farms to attract birds for insect control.

**Prohibit the use of synthetic herbicides and pesticides** –Organic farming forbids the use of synthetic herbicides and pesticides. This means that no chemicals are entering into the environment as a result from organic farming practices. Another benefit is that plant and insect diversity is better able to thrive when synthetic herbicides and pesticides are not suppressing them. This can increase the biodiversity two fold as it allows for more diverse plants and insects plus attract other species that would consume these plants and insects.

**Prohibit the use of hormones**– Most conventional dairy cows are administered hormones to make them grow faster or produce more milk. Up to one third of all dairy cows in the U.S. are injected with a genetically engineered hormone called rBGH, or recombinant bovine growth hormone (also known as rBST or recombinant bovine

somatotropin) (Hatz 2). There is growing concern about the environmental effects of growth hormones. Undigested hormones are secreted out in cow's manure. The hormone residues can then seep into the soil and water, both surface and groundwater. Hence the hormone residues in cow manure can enter the ecosystem (Growth Hormones in Foods).

**Prohibit the use of antibiotics-** Antibiotics used extensively in livestock may have an adverse effect on agricultural soil ecosystems. Particularly affected are bacteria in the nitrogen cycle, which replenishes nutrients in the soil. Studies have found effects on bacteria are seen over several weeks even when the antibiotics had broken down significantly. Microbial populations of the soil are changed as fungi replaced the bacteria suppressed by the antibiotics (Spreading Antibiotics in the Soil Affects Microbial Ecosystems).

**Grass-Fed-** Cows are naturally meant to graze in open pasture. With the use of proper grazing techniques pasture land can thrive. Pastureland is a renewable resource; energy from the sun is recaptured by green plants that can be harvested by grazing animals. Preserving pasture land also protects watersheds and ground water. Grass is what cows as ruminants were meant to eat. Ruminants (even-toed hoofed animal that chew their cud and have a four chambered stomach) are best adapted to the use of standing forage such as edible grasses and forbs (Holechek, Pieper, and Herbel 5). Nutritional benefits for being grass-fed include high levels of conjugated linoleic acid (CLA), omega 6, beta carotene, vitamin A and E.

## Roman Stoltzfoos' Farm-Kinzers, PA

9/18/08

### Farm information:

Farm owned for 25 years

200 acres

### Large pond in back yard

Date:	9/18/08	5/15/09
pH	7.2	8.4
Nitrate ppm(mg/L)	0	0
Nitrite ppm(mg/L)	0	0

### Small Stream below pond in wooded area

Date:	9/18/08	5/15/09
pH	6.8	6.9
Nitrate ppm(mg/L)	20	20
Nitrite ppm(mg/L)	0	0

### Small stream below pond

Date:	9/18/08	5/15/09
pH	6.4	6.5
Nitrate ppm(mg/L)	20	0
Nitrite ppm(mg/L)	40	0

### ***Plant species:***

Northern Red Oak -*Quercus rubra* L.

Black Walnut -*Juglans nigra* L.

Early Goldenrod - *Solidago juncea*

Poison ivy -*Toxicodendron radicans*

Pokeweed -*Phytolacca american*

Common chicory- *Cichorium intybus*

Broadleaf cattail -*Typha latifolia* L

Wild or Pasture rose - *R. virginiana*

Maidenhair fern- *Adiantum pedatum*

Evergreen shield fern -*Dryopteris marginalis*

Red Clover- *Trifolium pretense*

White Clover- *Trifolium repens*

Purple clover -*Trifolium purpureum*



Swamp Thistle- *Cirsium muticum*

(Newcomb 1-490) (Peterson 1-126)

***Wildlife species:***

***Mammal Species:***

Gray squirrel - *Sciurus carolinensis*

White tailed Deer - *Odocoileus virginianus*

Groundhog - *Marmota monax*

Raccoon -*Procyon lotor*

***Amphibian Species:***

Green frog- *Rana clamitans*



(Conant et al. 1-128)

***Avian (Bird) Species***

Red tail hawk - *Buteo jamaicensis*

American crow- *Corvus brachyrhynchos*

Trumpeter Swan - *Cygnus buccinator*



(Robbins, Chandlers S. et al. 1-359)

***Insect species***

Clouded Sulphur- *Colias philodice*

Pink-edged Sulphur- *Colias interior*

Locust Borer- *Megacyllene robiniae*

**Roman's Farm 5/15/09**

Purple clover - *Trifolium purpureum*

Common Buttercups - *Ranunculus acris*

Common Dandelions- *Taraxacum officinale*

Daisy Fleasbane- *Erigeron strigosus*

Meadow Fescues -*Festuca pratensis*

Poison ivy -*Toxicodendron radicans*

Common St. Johnswort- *Hypericum perforatum*

Maidenhair fern- *Adiantum pedatum*

Evergreen shield fern -*Dryopteris marginalis*

Old-growth -Black Walnut (*Juglans nigra* L.)

Silver Maple-*Acer saccharinum* L.

Red Maple-*Acer rubrum* L.

Bluets- *Houstonia*

Mustard- *Sinapis arvensis*

Dame's rocket- *Hesperis matronalis*

Brambles(blackberries)-*Rubus*



Spring beauty- *Claytonia virginica*



Star of Bethlehem-Ornithogalum Umbellatum



(Newcomb 1-490) (Peterson 1-126)

***Insects:***

Honey bees- *Apis mellifera*

Termites- *Varies*



(Insect Identification)

***Wildlife:***

Woodhouse's toad -*Bufo woodhousii*



Bullfrog- *Rana catesbeiana*

(Conant et al. 1-128)

***Mammal Species:***

Groundhog- *Marmota monax*

***Avian (Bird) species***

Northern Cardinal-*Cardinalis cardinalis*

Blue Jay-*Cyanocitta stelleri*

Brewer's Black bird-*Euphagus cyanocephalus*

Red-tailed hawk- *Bueto jamaicensis*

Red-winged black bird-*Agelaius phoenicues*



Pileated woodpecker hole

(Robbins, Chandlers S. et al. 1-359)

**Ben Glick's Farm-Paradise, PA**

9/18/08

**Farm information:**

Farm owned since 1990

103 acres

Large Stream running through property

Date:	9/18/08	6/24/09
pH	8.4	8.0
Nitrate ppm(mg/L)	40	30
Nitrite ppm(mg/L)	0.5	0.5

***Plant species:***

Red Clover- *Trifolium pretense*

White Clover- *Trifolium repens*

Purple clover-*Trifolium purpureum*

Daisy Fleabane- *Erigeron annuus*

Yellow Woodsorrel-*Oxalis stricta*

(Newcomb 1-490) (Peterson 1-126)

***Wildlife species:***

Groundhog - *Marmota monax*

***Avian (Bird) Species)***

Barn swallow- *Hirundo rustica*

Mourning Dove- *Zenaida macroura*

Great white heron- *Ardea herodias occidentalis*

(Robbins, Chandlers S. et al. 1-359)

***Insect species***

Cabbage White- *Pieris rapae*



Fiery Skipper- *Hylephila phyleus*



Clouded Sulphur -*Colias philodice*

Pink-edged Sulphur- *Colias interior*

(Opler, Paul A. et al.)

**Ben Glick 6/24/09**



***Plant species:***

Red Clover- *Trifolium pretense*

White Clover- *Trifolium repens*

Purple clover-*Trifolium purpureum*



Swamp Thistle- *Cirsium muticum*

Common chicory- *Cichorium intybus*

Common Buttercups - *Ranunculus acris*

Yellow wood-sorrel-*Oxalis europaea*

Common Dandelions- *Taraxacum officinale*

Bluets- *Houstonia*

Queen Anne's Lace-*Daucus carota*

Common Morning Glory-*Ipomoea purpurea*



Black Walnut -*Juglans nigra* L.

Wild Red Raspberry-*Rubus idaeus*

Common Blue Violet-*Viola papilionacea*

Maidenhair fern- *Adiantum pedatum*

Evergreen shield fern -*Dryopteris marginalis*

Wild Mint-*Mentha arvensis*

Creeping buttercups-*Ranunculus repens*

Tall Buttercup- *Ranunculus acris*

Common Milkweed-*Asclepias syriaca*

Rough fruited cinquefoil-*Potentilla recta*



Star Chickweed-*Stellaria pubera*

Common Wood-Sorrel-*Oxalis montana*

(Newcomb 1-490) (Peterson 1-126)

***Insect Species:***

Cabbage White- *Pieris rapae*

Fat bumble bees

Clouded Sulphur -*Colias philodice*



Lightning bug- *Photuris lucicrescens*

Fiery Skipper- *Hylephila phyleus*

Lady bug- *Coccinellidae*

Eastern Tailed-Blue- *Cupido comyntas*





(Opler, Paul A. et al.), (Insect Identification)

***Wildlife species:***

***Avian (Bird) Species***

Brewer's Blackbird- *Euphagus cyanocephalus*

Red-tailed hawk-*Buteo jamaicensis*

Grasshopper Sparrow-*Ammodramus savannarum*

American Goldfinch-*Carduelis tristis*

American Robin-*Turdus migratorius*

House wren-*Troglodytes aedon*

Eastern Bluebird- *Sialia sialis*

Red-winged black bird-*Agelaius phoeniceus*

Barn swallow-*Hirundo rustica*

Cave swallows-*Petrochelidon fulva*

Tree swallow-*Tachycineta bicolor*

Brown-headed nuthatch-*Sitta pusilla*

(Robbins, Chandlers S. et al. 1-359)

***Amphibian Species:***

Bull frog-*Rana catesbeiana*

(Conant et al. 1-128)

***Mammal Species:***

Ground hog- *Marmota monax*

Gray squirrel - *Sciurus carolinensis*

**Ivan Brubacher's Farm-Narvon, PA**

10/3/08

**Farm information:**

Owned since 1965

60 acres

Stream near farm-found a large crayfish claw water

Date:	10/3/08	7/8/09
pH	6.8	6.9
Nitrate ppm(mg/L)	0	20
Nitrite ppm(mg/L)	0.25	0

***Plant species:***

Wild mint- *Mentha arvensis*

Daisy Fleaban - *Erigeron annuus*

Early Goldenrod - *Solidago juncea*

Red Clover- *Trifolium pretense*

White Clover- *Trifolium repens*

Purple clover - *Trifolium purpureum*

Common chicory- *Cichorium intybus*

Queen Anne's Lace -*Daucus carota*

Common milkweed - *Asclepias syriaca*

Bush Honeysuckle - *Diervilla lonicera*

Mountain honeysuckle - *L. dioica var. glaucescens*

Wild honeysuckle -*L. dioica var. orientalis*

Pokeweed - *Phytolacca americana*

Wild or Pasture rose -*R. virginiana*

Great Lobelia - *Lobelia siphilitica*



(Newcomb 1-490) (Peterson 1-126)

***Wildlife:***

***Mammal Species:***

Groundhog - *Marmota monax*

Raccoon - *Procyon lotor*

White tailed Deer- *Odocoileus virginianus*

***Avian (Bird) Species***



Barn swallow- *Hirundo rustica*

Red-headed woodpecker- *Melanerpes erythrocephalus*

American crow - *Corvus brachyrhynchos*

Eastern Bluebird, *Sialia sialis*

White breasted nuthatch- *Sitta carolinensis*

(Robbins, Chandlers S. et al. 1-359)

***Insects:***

Woolly caterpillar -*Pyrrharctia Isabella*

Yellow Garden Spider- *Argiope aurantia*-(abundant)

Clouded Sulphur- *Colias philodice*

Pink-edged Sulphur- *Colias interior*

Fiery Skipper -*Hylephila phyleus*

Cabbage White- *Pieris rapae*

Silver-spotted Skipper - *Epargyreus clarus*

Eastern Tailed-Blue- *Cupido comyntas*

Green leaf bug - *Pœrilocapsus lineatus* Fabr

**Ivan Brubacher farm-7/8/09**



***Plant Species:***

Common chicory- *Cichorium intybus*

Creeping Buttercups-*Ranunculus repens*

Tall Buttercup- *Ranunculus acris*

Daisy Fleaban - *Erigeron annuus*

White Clover- *Trifolium repens*

Purple clover -*Trifolium purpureum*

Oxeye Daisy-*Chrysanthemum leucanthemum*

Queen Anne's Lace-*Daucus carota*

Common Dandelions- *Taraxacum officinale*

Pale smartweed-*Polygonum hydropiper*

Common milkweed - *Asclepias syriaca*



Common Morning Glory-*Ipomoea purpurea*



Common St. Johnswort- *Hypericum perforatum*



Snapdragon Butter-and-eggs- *Linaria vulgaris*



(Newcomb 1-490) (Peterson 1-126)

***Insect Species:***  
Cabbage White- *Pieris rapae*

Fiery Skipper- *Hylephila phyleus*

Bumble bee- *Bombus fervidus*

Monarch- *Danaus plexippus*



Honey bee- *Apis mellifera*

Eastern Tailed-Blue- *Cupido comyntas*

Lady bug- *Coccinellidae*



Clouded Sulphur -*Colias philodice*



Six Spotted Fishing Spider- *Dolomedes triton*

(Opler, Paul A. et al.)

**Wildlife:**

**Avian (Bird) Species:**

Red-winged black bird- *Agelaius phoeniceus*

Barn swallow- *Hirundo rustica*

House wren- *Troglodytes aedon*

American Robin- *Turdus migratorius*

American Goldfinch- *Carduelis tristis*



Grasshopper Sparrow-*Ammodramus savannarum*

Northern Mockingbird-*Mimus polyglottos*

(Robbins, Chandlers S. et al. 1-359)

**Dave Martin's Farm-Manheim, PA**

10/24/08

**Farm information:**

Owned since 1946

180 acres

Stream in woods lining meadow. A lot of leaf matter in stream

Date:	10/3/08	9/9/09
pH	7	7.5
Nitrate ppm(mg/L)	20	0
Nitrite ppm(mg/L)	0.1	0

**Spring**

Date:	10/3/08	9/9/09
pH	7.2	7.5
Nitrate ppm(mg/L)	0	0
Nitrite ppm(mg/L)	0.2	0

**Plants:**

Red Clover -*Trifolium pretense*

White Clover- *Trifolium repens*

Purple clover-*Trifolium purpureum*

Dandelions- *Taraxacum officinale*

Canada thistle- *Cirsium arvense* (L.) Scop.

Daisy Fleabane - *Erigeron annuus*

Pokeweed - *Phytolacca americana*

Aspen- *Populus tremuloides*

Black Walnut - *Juglans nigra* L.

Wild cabbage- *Caulanthus crassicaulis*

Pickerelweed -*Pontederia cordata*

(Newcomb 1-490) (Peterson 1-126)

**Wildlife:**

**Mammal Species:**

-Groundhog- *Marmota monax*

**Avian (Bird) species**

Turkey Vulture- *Cathartes aura*

House Sparrow -*Passer domesticus* –non native

Red-winged Blackbird- *Agelaius phoeniceus*

Common Starling - *Sturnus vulgaris*

Red-tailed hawk- *Buteo jamaicensis*

Boreal Chickadee -*Poecile hudsonicus*

Common Pheasant -*Phasianus colchicus*-non native

American Robin - *Turdus migratorius*

Mourning dove - *Zenaida macroura*

(Robbins, Chandlers S. et al. 1-359)

**Insects:**

*No insect-Cold day*



Dave Martin Farm 9/9/09



Stream that goes into underground aquifer



Steeplebush-*Spiraea tomentosa*



Clouded Sulphur -*Colias philodice*

Cabbage White- *Pieris rapae*

Eastern Tailed-Blue- *Cupido comyntas*

Lady bug- *Coccinellidae*

***Avian (Bird) Species***

Grasshopper Sparrow-*Ammodramus savannarum*

European Starlings-*Sturnus vulgaris*

Red-tailed hawk-*Buteo jamaicensis*

Turkey Vulture- *Cathartes aura*

Barn swallow- *Hirundo rustica*

***Plants:***

Common chicory- *Cichorium intybus*

Mustard- *Sinapis arvensis*

Pale smartweed-*Polygonum hydropiper*

Common Morning Glory-*Ipomoea purpurea*

White Clover- *Trifolium repens*

Daisy Fleabane - *Erigeron annuus*

Common Dandelions- *Taraxacum officinale*

Early Goldenrod - *Solidago juncea*

Hairy vetch- *Vicia villosa*

Swamp Thistle- *Cirsium muticum*

Creeping Buttercups-*Ranunculus repens*

Heal-all-*Prunella vulgaris*

Spotted touch-me-not-*Impatiens carpendis*

Wild Bergamot-*Monarda fistulosa*

Pokeweed -*Phytolacca americana*

Woodland sunflower-*Helianthus microcephalus*



**Amos Beiler's Farm-Christiana, PA**

10/24/08

**Farm information:**

Owned farm 15 years

Farm is 80 acres

Cows use stream

Date:	10/24/08	7/29/09
pH	6.8	7.2
Nitrate ppm(mg/L)	40	10
Nitrite ppm(mg/L)	0.2	0

Further upstream

Date:	10/24/08	7/29/09
pH	6.5	7.1
Nitrate ppm(mg/L)	40	15
Nitrite ppm(mg/L)	0.5	0.2

Further down stream

Date:	10/24/08	7/29/09
pH	6.5	6.7
Nitrate ppm(mg/L)	45	20
Nitrite ppm(mg/L)	0.1	0.3

**Plants:**

Maidenhair fern- *Adiantum pedatum*

Evergreen shield fern- *Dryopteris marginalis*

Wild violet- *Viola papilionacea*

Red Clover -*Trifolium pratense*

White Clover- *Trifolium repens*

Purple Clover-*Trifolium purpureum*

Black Walnut -*Juglans nigra* L.

Low-bush blueberry- *Vaccinium angustifolium*



Queen Anne's Lace-*Daucus carota*

Wild mint -*Mentha arvensis*

Bush Honeysuckle- *Diervilla lonicera*

Mountain honeysuckle -*L. dioica* var. *glaucescens*

Wild honeysuckle -*L. dioica* var. *orientalis*

Swamp Smartweed- *Polygonum coccineum*



(Newcomb 1-490) (Peterson 1-126)

**Wildlife:**

**Mammal Species:**

Red Fox -*Vulpes vulpes* (den, plus possible feces)

Least Chipmunk- *Tamias minimus*

Groundhog - *Marmota monax*

**Avian (Bird) Species**

Red-headed Woodpecker- *Melanerpes erythrocephalus*

Northern Cardinal -*Cardinalis cardinalis*

House Sparrow -*Passer domesticus* –non native

Northern Goshawk -*Accipiter gentilis*

(Robbins, Chandlers S. et al. 1-359)

**Insects:**

Dun Skipper- *Euphyes vestris*

Honey bee-*Apis mellifera*

**Amos Beiler 7/29/09**

**Plant Species:**

Fescue- *Festuca pratensis*

Common Chicory- *Cichorium intybus*

Oxeye Daisy-*Chrysanthemum leucanthemum*

White Clover- *Trifolium repens*

Queen Anne's Lace-*Daucus carota*

American Honeysuckle-*Lonicera canadensis*

Brambles (blackberries)-*Rubus*

Pale smartweed-*Polygonum hydropiper*

Black Walnut (*Juglans nigra* L.)

Wild Red Raspberry-*Rubus idaeus*

Spotted touch-me-not-*Impatiens carpensis*

Common wood-sorrel-*Oxalis montana*

Whorled Loosestrife-*Lysimachia quadrifloia*



Common Morning Glory-*Ipomoea purpurea*



Horse Nettle-*Solanum carolinense*

***Insects:***

Clouded Sulphur -*Colias philodice*

Cabbage White- *Pieris rapae*

Daddy long leg- *Pholcus phalangioides*

Bumble bee- *Bombus fervidus*

Monarch- *Danaus plexippus*

Eastern Tailed-Blue- *Cupido comyntas*

Eastern Pondhawk- *Erythemis simplicicollis*



White-Breasted Nuthatch-*Sitta carolinensis*

Northern Cardinal-*Cardinalis cardinalis*

Blue Jay-*Cyanocitta stelleri*

American Goldfinch-*Carduelis tristis*

Red-tailed hawk- *Buteo jamaicensis*

Ground hog- *Marmota monax*

(Newcomb 1-490) (Peterson 1-126)

**Ned's Farm –Avondale, PA 5/11/09**

Organic since 1997

112 acres

Lake

Date:	5/11/2009	6/10/2009
pH	8.8	8.7
Nitrate ppm(mg/L)	0	0
Nitrite ppm(mg/L)	0	0

Run off from lake

Date:	5/11/2009	6/10/2009
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pH	8.7	7.1
Nitrate ppm(mg/L)	0	0
Nitrite ppm(mg/L)	0	0

Trout Run

Date:	5/11/2009	6/10/2009
pH	6.8	7
Nitrate ppm(mg/L)	0	0
Nitrite ppm(mg/L)	0.5	0

*Avian (Bird) species*



Barn swallow-*Hirundo rustica*

Cave swallows-*Petrochelidon fulva*

Tree swallow-*Tachycineta bicolor*

Northern Cardinal-*Cardinalis cardinalis*

Blue Jay-*Cyanocitta stelleri*

(Robbins, Chandlers S. et al. 1-359)

**Wildlife:**

Groundhog-*Marmota monax*

Gray squirrel - *Sciurus carolinensis*

**Plants:**

Hairy vetch-*Vicia villosa*

Multi flora rose-*Rosa multiflora*

Tulip poplar Red Raspberry-*Rubus idaeus*

Water hemlock- *Cicuta maculata* L.

Creeping Buttercups-*Ranunculus repens*

Red Clover- *Trifolium pretense*

White Clover- *Trifolium repens*

Purple clover -*Trifolium purpureum*

Staghorn Sumac -*Rhus typhina*

American Honeysuckle-*Lonicera canadensis*

Daisy Fleabane-*Erigeron annuus*

Mustard- *Sinapis arvensis*

Bald cypress- *Taxodium distichum*

American Sycamore- *Platanus occidentalis*



Common Blue Violet-*Viola papilionacea*

Steeplebush-*Spiraea tomentosa*

Reed canarygrass- *Phalaris arundinacea*

Showy Tick Trefoil –*Desmodium canadense*



Dame's rocket-*Hesperis matronalis*

(Newcomb 1-490) (Peterson 1-126)

**Ned's Farm 6/10/09**

***Insects:***

Cabbage White- *Pieris rapae*

Fiery Skipper- *Hylephila phyleus*

Eastern Tailed-Blue- *Cupido comyntas*

Honey bee-*Apis mellifera*

Question Mark-*Polygonia interrogationis*



(Opler, Paul A. et al.

**Plants:**

Red Clover- *Trifolium pretense*

White Clover- *Trifolium repens*

Queen Anne's Lace-*Daucus carota*

Wild Red Raspberry-*Rubus idaeus*

Sugar Maple tree- *Acer saccharum*

American Honeysuckle-*Lonicera canadensis*



(Newcomb 1-490) (Peterson 1-126)

**Wildlife:**

Gray squirrel - *Sciurus carolinensis*

Groundhog- *Marmota monax*

**Avian (Bird) species**

Red-winged Blackbird- *Agelaius phoeniceus*

American Robin - *Turdus migratorius*

Mourning dove - *Zenaida macroura*

(Robbins, Chandlers S. et al. 1-359)

## **Conclusion:**

The observations in this study found that organic farming through environmentally sustainable practices has the potential to facilitate the growth of biodiversity. Biodiversity is vital to ecosystem health; biodiversity and ecosystem health are intertwined each influencing the other. Each species no matter how insignificant it may seem plays an important role in its ecosystem. Dandelions for example are considered a pest by many but help to support a variety of species including the honey bee, golden northern bumble bee, clouded sulfur, cabbage white, Pennsylvanian firefly, American Goldfinch, northern bobwhite, wild turkey, eastern cottontail and white tailed deer.

Decisions that a business or individual makes have the ability to directly or indirectly impact biodiversity. For example the decision to not use chemical fertilizers or to recycle everything possible can mean the prevention of a pollutant entering into an ecosystem and effecting biodiversity. Natural Dairy Products (NDP) is dedicated to the sustainability and preservation of the environment through protecting and improving our local ecosystems. Through Natural Dairy's support of local organic farms we help to support local ecosystems and biodiversity. NDP is serious about being advocates of the Earth. This is evident in our office recycling/composting program and our decision to purchase wind power for the office. As stewards of the earth we all have a responsibility to be as environmentally conscious as possible. Natural Dairy Products hopes you can join us in working towards conserving our planet for future generations.

## **Limitations of the study:**

Limitations of the study include conditions and obstacles that may have hindered research. The first limitation is related to the extent that the findings can be generalized beyond the cases studied. Studying the whole population is impractical; only a part or sample can be studied. While the sample size in this study provides a good snap shot of the population in the set parameters it is too limited for broad generalization. Additional limitations of the study include observational limitations and time constraints. Species were noted on an observational basis during set time periods. Other limitations include inclement weather and geographical location. Limitations of the study could be future areas of research to see how data may vary under different circumstances.

## Work Cited

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