



Agricultural Conservation Technical Training - Basic

United States Department of Agriculture



Pennsylvania

Natural
Resources
Conservation
Service



Fish & Wildlife Resources

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Objectives:

- Understand why Fish & Wildlife resource concerns are considered during Conservation Planning
- Understand the resource concerns of importance to wildlife
- Begin to view the agricultural landscape as an interaction of many systems that can complement each other and serve multiple purposes



Wildlife Resource Concerns

- Wildlife has “value”, but its value varies depending on person’s viewpoint
- *“Why should we even think about wildlife on a farm, if it’s not one of the farmer’s objectives?”*



Wildlife Resource Concerns



- We have to consider wildlife because it's a **public resource**
 - *Water*
 - *Air*
 - *Fish & Wildlife*
- Why? Because of our history...



Wildlife Resource Concerns



- In Europe, the land, crops, livestock, trees, and “wild game” were property of *the landowner*.
 - Unauthorized use of any of those items was a punishable crime.
- In America, the land, vegetation, and domestic animals are private property; but fish & wildlife are **PUBLIC property** (managed by the state).



Wildlife Resource Concerns

- As a result, we have laws that oversee fish & wildlife as a public resource, which NRCS must consider at all times—not just when it's a cooperator's choice.
 - National Environmental Policy Act (NEPA, 1969)
 - Water Pollution Control Act (1972)
 - Clean Water Act (1977)
 - Endangered Species Act (1973)



Wildlife Resource Concerns

- The landowner and the laws *may not* have the same objective...
 - Landowner: “I need to spread manure in winter, because my pit is full...”
 - Law: Spreading manure can only be done in certain ways, to protect water quality ***because of the public benefits related to clean surface waters...***
- Landowner: “I want to drain that wetland, because I need more acres to graze my cattle...”
- Law: Some actions aren’t allowed, to protect the wetland functions ***because of the public benefits they provide for water quality and infiltration...***



Wildlife Resource Concerns

- We have to consider wildlife because it's a public resource

Water



Air



Fish & Wildlife



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Farmland Wildlife and its needs:

- What is “farmland wildlife”?

Wildlife that lives in open, non-forested areas



Some of the fastest-declining wildlife groups
(Grassland birds → ~60% decline over 40 years)



Why is Farmland Wildlife declining?

Natural

Predators

Diseases

Unnatural

Large-scale
Habitat Loss

Pesticides



Why is Farmland Wildlife declining?

Predators:

“hawks and foxes” syndrome

Predator / Prey relationships
are as old as the animals
themselves...

*Predation is **normal**, and
doesn't cause a massive
decline unless something else
is wrong...*

(And predators are wildlife, too!)



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Why is Farmland Wildlife declining?

Diseases: rabies, avian flu, etc.

Have less effect on wildlife than is commonly believed.

Unlike domestic animals, wildlife has more natural tolerance or immunity...

Unlike domestic animals, most wildlife isn't usually in dense groups → less transmission...



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Why is Farmland Wildlife declining?

Pesticides

Any harm is usually an indirect effect of the chemical:

- it kills plants or insects, reducing food sources...
- it absorbs into plants or insects, and transfers to other animals that eat the affected “pest”...
- *reduced by label restrictions and regulation*



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Why is Farmland Wildlife declining?



Natural

Predators

Diseases

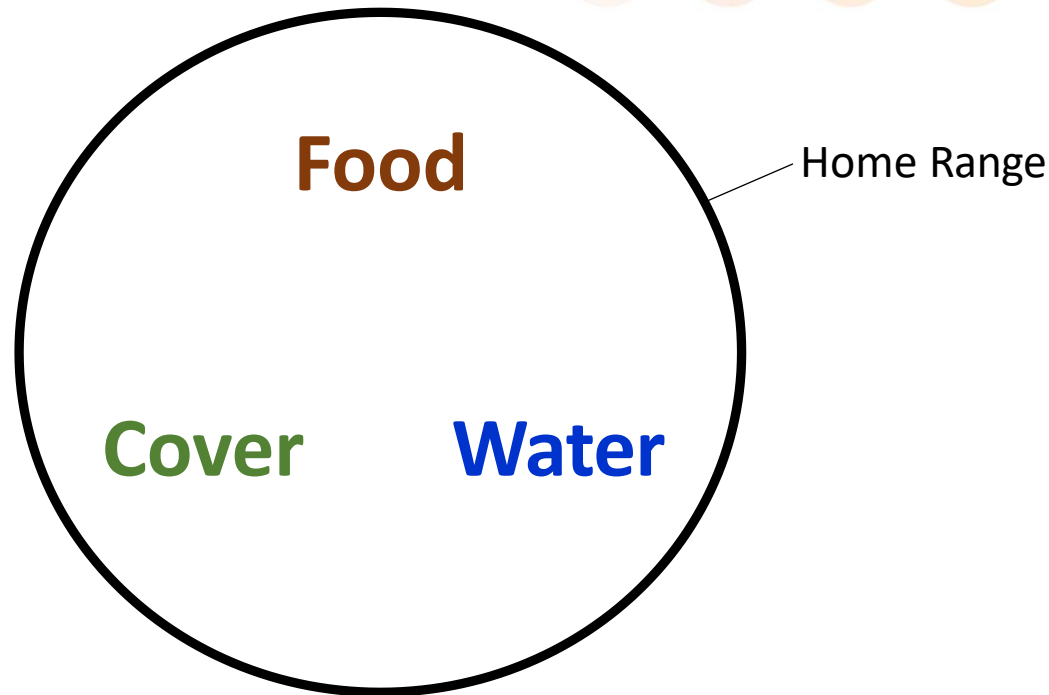
Unnatural

**Large-scale
Habitat Loss**

Pesticides



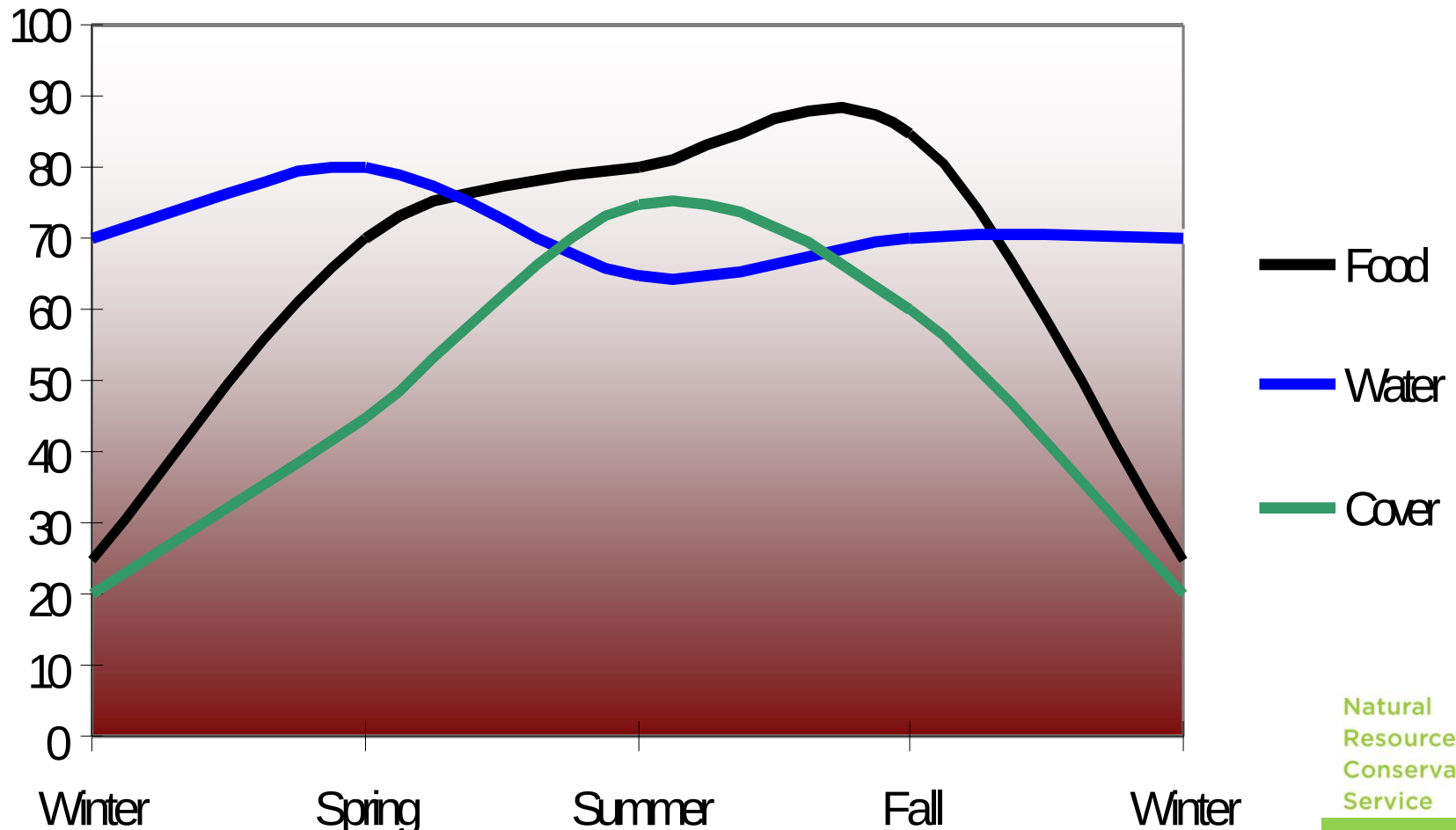
What are Resource Concerns for Wildlife?



- All three are equally important (but water's not limiting in PA).
- All three must be locally available, throughout the *entire* year.



What are Resource Concerns for Wildlife?





United States Department of Agriculture

September



October



Pennsylvania

What are Resource Concerns for Wildlife?

Vegetation (Habitat) is the key.

-more diverse vegetation offers more benefits
(food sources, cover value, cover duration, etc.)



What are Resource Concerns for Wildlife?

How do we affect vegetation in farmland?

Food

Crop Rotation

Crop Residues

Cover Crops

Food Plot / Harvest

Cover

Crop Rotation

Crop Residues

Cover Crops

Food Plot / Harvest

Long-term
Vegetation

Interspersion



What are Resource Concerns for Wildlife?

Crop Rotation

-a more diverse rotation offers more benefits

(food sources, cover value, harvest times, etc.)*

**more than just the crops—insects, seeds, prey...*



What are Resource Concerns for Wildlife?

Crop Residues

- more residue offers more benefits
(winter cover, food sources – grains, insects)



What are Resource Concerns for Wildlife?

Cover Crops

- provide cover and food during stressful times of the year, when resources are scarce



What are Resource Concerns for Wildlife?

Food Plots / Cropping Activities

- provide cover and food during stressful times of the year, when resources are scarce



What are Resource Concerns for Wildlife?

Example 1

Two food options for today (all day):

- A. A bowl of iceberg lettuce.
- B. A bowl of mixed greens with carrots, tomatoes, broccoli, sunflower seeds, egg, bacon bits, and croutons.

Which would you choose, and why?

Which would benefit you more?

(Crop diversity, Crop residues, Cover crops, and Food Plots)



What are Resource Concerns for Wildlife?

Vegetation Type

- perennial plants offer more benefits
(especially when they're not "regular" crops...)



What are Resource Concerns for Wildlife?

Interspersion

-reduce the distance to *long-term* cover



What are Resource Concerns for Wildlife?

Example 2

There are 12 donuts in a meeting room:

- A. 6 in plain view on the table in the back.
- B. 6 hidden in different places around the room.

Which donuts will be eaten first?

Which donuts *might* “survive” the whole day?

(Crop residues, Cover crops, Food Plots, Interspersion)



How do Resource Concerns for Wildlife “Fit In” with Farming?

- “Begin to view the agricultural landscape as an interaction of many systems that can complement each other and serve multiple purposes”



What are the Wildlife Benefits of...



Crop Rotation

Crop Residues

Cover Crops

Food Plot / Harvest

Long-Term Vegetation

Interspersion



What are the Conservation Benefits of...

Crop Rotation

Food Plot / Harvest

Crop Residues

Long-Term Vegetation

Cover Crops

Interspersion

How do these practices affect...

Soil erosion?

Soil health?

Nutrient mgmt?

Water quality?

The farmer's *profitability*?



What are the Conservation Benefits of...

Crop Rotation

Crop Residues

Cover Crops

Food Plot / Harvest

Long-Term Vegetation

Interspersion

We know these practices are good for many things—so why can't we tweak them *just a little* and also make them good for wildlife?

Wildlife and Agriculture don't **have** to work against each other.



Summary:

- Understand why Fish & Wildlife resource concerns are considered during Conservation Planning
 - *They're a public resource like air and water...*
- Understand the resource concerns of importance to wildlife
 - *Food and cover, across the landscape and throughout the year...*
- Begin to view the agricultural landscape as an interaction of many systems that can complement each other and serve multiple purposes
 - *Consider the wildlife potential of many common conservation practices...*





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