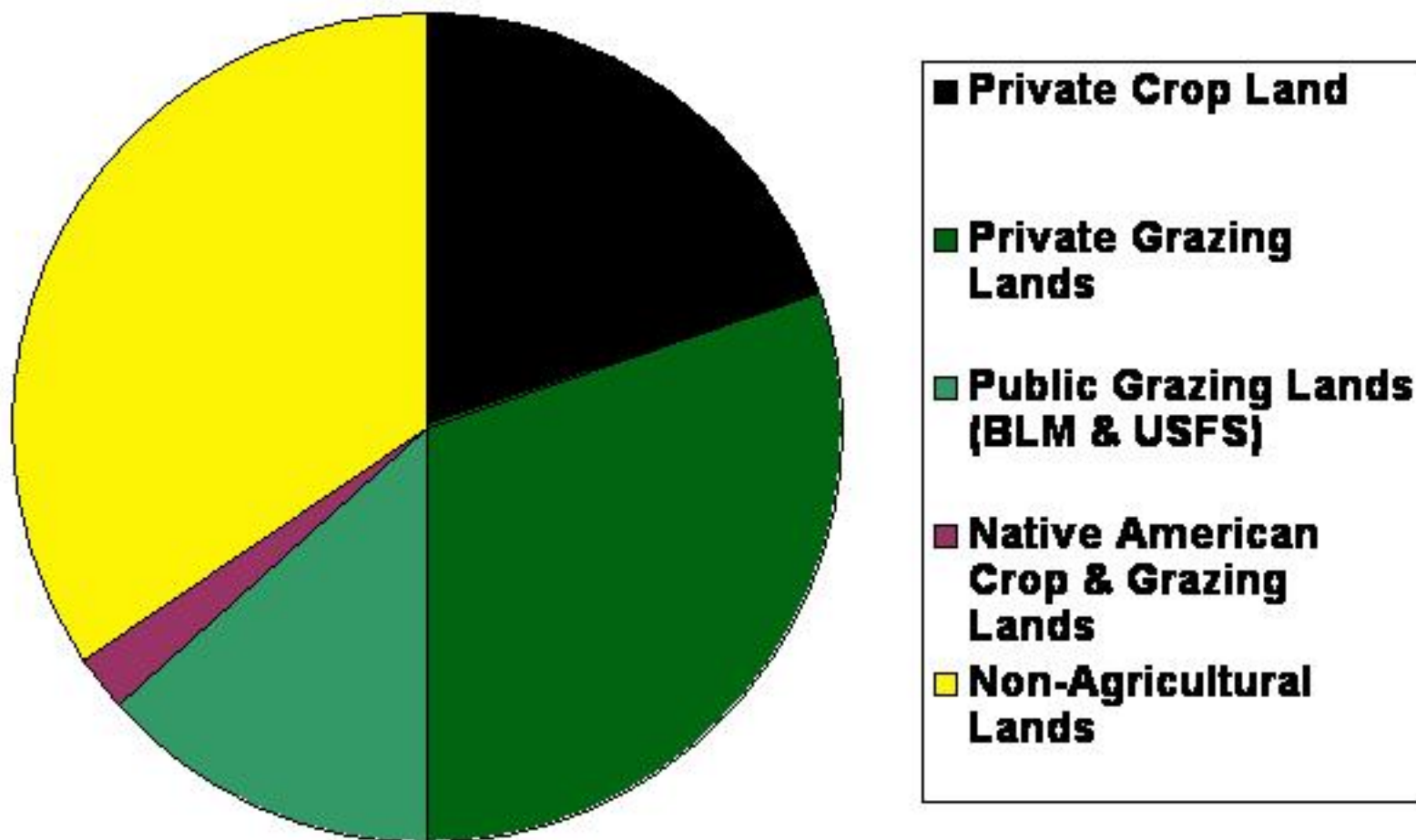


Farming with the Wild Forever: Using Ag Easements to Support Biodiversity



Jo Ann Baumgartner

Land Uses in the Continental United States



Species in Decline

Roughly 40% of the endangered species in the US are listed because of agriculture's impact to native habitat.



USFWS Carl Schwartz

Swainson's hawk

When farmers realize that habitat loss is the greatest threat to native plants and wildlife, the importance of maintaining, enhancing, and even increasing native habitat becomes clear.



Roberto Carra

Fragmented Wildlands

Ten percent of US' wildlands are intact, but most are isolated and fragmented. Agriculture can provide habitat connections that ensures genetically robust populations of migrating wildlife.



Richard Weisser and smokyphotos.com

Aldo Leopold called for Biotic Farming,

"... A good farm must be one where the wild fauna and flora has lost acreage without losing existence."



Three Ways to Incorporate Biodiversity

- Attaching third party plans into an ag easement
- Adopting two separate easements
- Including prescriptive language into an ag easement (with or without first 2 ways)



Attach Third Party Plans Into an Ag Easement



**Anson Farm in Essex County, NY follows
USDA NRCS Best Management Practices**

Attach Third Party Plans Into an Ag Easement

- When organic farming is a desired outcome of both the easement holder and landowner, provisions can be made to restrict practices to conform to the third-party standard of the USDA organic program.



What is organic?

Organic Farming

Livestock:

- Free of antibiotics
- No added hormones
- Mad cow safe
- Ethical treatment



Crops:

- Healthy soils
- Natural enemy habitat
- No synthetic chemicals used
- Crop rotation
- Resistant varieties used



Organic is Free of Genetically Modified Organisms

GMOs are created when:

The genetic material of one organism is inserted into the permanent genetic code of another.

- Potatoes with bacteria genes
- "Super" pigs with human genes
- Fish with cattle genes
- Tomatoes with fish genes





205.2 Terms defined.

Organic production

A production system that is managed to respond to site-specific conditions by integrating cultural, biological, and mechanical practices that foster cycling of resources, promote ecological balance, and conserve biodiversity.

Attach Third Party Plans Into an Ag Easement

- Third-party ecolabels, such as Salmon Safe, Food Alliance, and Predator Friendly, may be used alone or in combination with the USDA organic program or NRCS plans.



Adopting Two Separate Easements



High Ground Organics in Santa Cruz County, CA has an organic ag easement and a separate conservation easement

Including prescriptive language into
an agricultural easement to benefit
biodiversity conservation.....

Sensitive Lands & Habitats



- Protect the qualities and ecological function of sensitive lands and habitats.

Sensitive Lands & Habitats

- Prohibit the degradation of sensitive lands or their conversion to other uses.



Merrilee Buchanan

Sensitive Lands & Habitats

- Prohibit major alteration of landforms.



Species of Concern

- Protect threatened, endangered, and other priority native species and their habitats.



R. Gerard



Photo © Dan Egan

Soil Quality

- Prohibit the degradation of soil resources.



NRCS

Soil Quality

- Retire and restore lands that are steep or prone to erosion.



Year-Round Plant Cover Helps Conserve Soil



Habitat Restoration

- Retire and restore land essential to providing or enhancing high priority areas.



Marginal Arkansas
farmland restored

Dan Imhoff

Habitat Restoration

- Define where and how restoration may be implemented.



High Ground Organics in CA is conserving and restoring habitat on farm edges next to Harkins Slough.

Grassed Waterway Conserves Soil



Before



After

Native Forbs and Grasses Protect Soil



Soil erosion

Erosion controlled with
grasses and flowering plants

Hedgerows Provide Habitat for Beneficial Wildlife



Riparian Areas

- Protect riparian corridors of sufficient width to meet the needs of priority species.



Steven Kaune © California Academy of Sciences

Fish requirements in river

Riparian Areas

- Prohibit removal or destruction of riparian vegetation, except when authorized by the easement holder and when necessary for the purposes of enhancing wildlife habitat.



Marc Hoshovsky

Riparian Areas

Protect riparian vegetation by prohibiting construction of any structure or impervious surfaces within established setback zone.



Sherry Ballard © California Academy of Sciences

Habitat Along Riparian Areas Supports Beneficial Birds



Riverdance Farm, Along Merced River

Grasses Protect Farm Drainages



Riverine Habitat Provides Wildlife Corridors



Water Resources

- Define habitat values and goals for the protection of water bodies.



NRCS

Water Resources

- **Maintain or restore the hydrological and ecological function of ponds, creeks, and streams.**



R. Gerard

Water Resources

- Prohibit de-watering of creeks and streams to the point where they do not function for the benefit of native species.



Water Resources

- Prohibit the sale of water off the farm or ranch.



Water Resources

- Prohibit introduction of invasive plants and animals to wetlands and water bodies.



Barbara Tokarska-Guzik, University of Silesia, www.forestryimages.org

Roads

Ensure that road construction, location, and maintenance are designed to minimize negative impacts to natural habitats and resource values.



Roads

- Retire and restore unneeded roads; prohibit building of nonessential roads.



www.fungi.com/mycotech/roadrestoration.html

Roads

- Prohibit motorized off-road travel unless essential for management.



Grazing

- Establish grazing restrictions that provide desired protection for forage, soil, water, threatened or endangered species, and other priority values.



**Bobolinks -grassland birds
once common in the Midwest can
benefit from grazing lands.**



Livestock are healthier when raised on pasture all of their lives



Grass-finished meat is low in total fat and “bad” fat, high in “good” fats, and high in beta-carotene and vitamin E

Pastures have higher quality and quantity of forage when animals are managed intensively



Dan Imhoff

Grazing

- Prohibit control of native predators by lethal methods.



Predator-Friendly

Non-lethal means of guard livestock, such as using llamas, donkeys, or dogs are used.



Predator-Friendly

- Pasture is used only when predation pressure is low
- Frequent appearances are made by rancher
- Larger animals are herded with smaller
- Circumstances of livestock death are documented



Predators are kept at bay with “turkey tractors,” electric fences, and an Anatolian Shepard at Embudo Valley Organic.



Invasive Species

- Control invasive, non-native species using ecologically sound practices (grazing, prescribed burning, manual, and biocontrol).



Nez Perce BioControl Center, www.insectimages.org

Invasive Species

- Prohibit introduction of any new invasive species, and remove immediately when found.



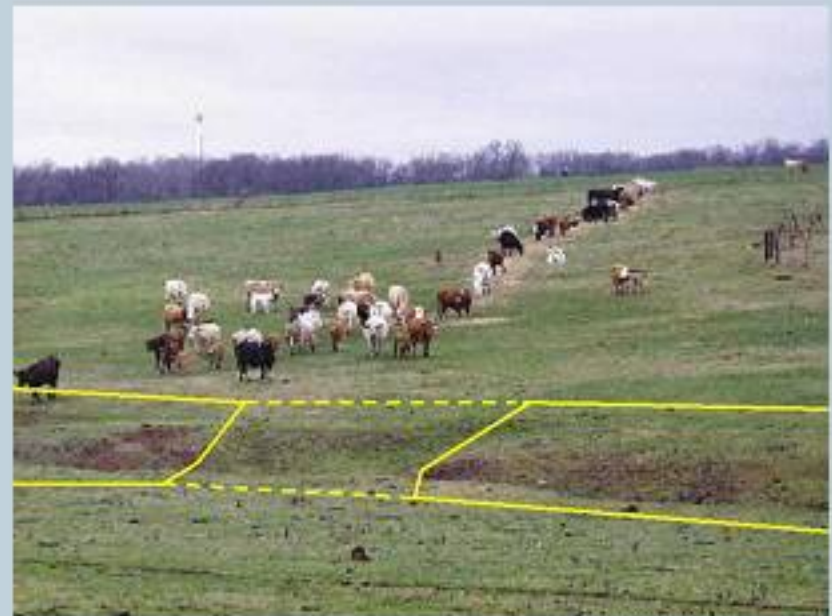
Invasive Species

- Prohibit planting any non-native species except where expressly permitted.



Fences

- Specify that fence construction, location, and season of use be designed to serve its purpose while minimizing habitat fragmentation, hazards and disruption of wildlife.



Univ of Arkansas

Agricultural Chemicals

- In the absence of a requirement for organic certification, easement provisions should allow only the minimal amounts of agricultural chemicals necessary to accomplish reasonable management goals.



**Diversity Reduces Need
for Chemical Sprays**

Wild Harvesting

- Prohibit commercial harvesting of plants, animals, or other materials from protected areas, or by establishing harvesting limits.



Roberto Carra

Ecological Functions and Processes

- Manage the land to accommodate normal flood regimes including periodic inundation.



Flooded fallow rice field

Ecological Functions and Processes

- Consider the benefits of controlled burns in fire-dependent ecosystems.



Audubon California



Restored pasture

Ecological Functions and Processes

- Establish natural areas where a succession of native communities can evolve.



Ecological Functions and Processes

- Provide feeding and nesting areas for native pollinators and seed dispersers.



David L. Green

In the US, bees pollinate 15 to 30% of the foods we consume.



How to Assess Which to Use

- Attaching third party plans into an ag easement
- Adopting two separate easements
- Including prescriptive language into an ag easement (with or without first 2 ways)

Depends on:

- Goals of landowner
- Goals of easement holder
- Funding sources



Get Creative

- Use funding sources with different goals - one for protecting from development, and the other conserving wild Nature.
- This can be done in one composite easement or two separate documents.



Wendell Berry has written,

"The question we must deal with is not whether the domestic and the wild are separate; it is how, in the human economy, their indissoluble and necessary connection can be properly maintained."

