

**Certified Regenerative by AGW Regenerative Plan**

**Introduction**

This Regenerative Plan Template is designed to assist you in meeting the requirements of the Certified Regenerative by AGW Regenerative standards. The Regenerative Plan must extend for at least five years, but a period of ten years—or longer—is recommended. Once completed, please submit this template with the required documents to caitlin@agreenerworld.org. Documents may include testing results, photos, or other materials to support your plan. Please add more space as needed throughout when filling out the template.

*Note: Completion of the Regenerative Plan Template does not guarantee A Greener World’s (AGW’s) acceptance of the holding’s Regenerative Plan. Acceptance will depend on the practices of the holding and level of detail provided.*

**Resources**

Please reference Certified Regenerative by AGW standards and annexes for additional information and guidance. As an example, Annex B: Assessment, Monitoring & Testing Methods provides examples of how to measure progress over time for important metrics, including soil health and biodiversity. These annexes are not exclusive but may clarify the requirements of the standards.

**ANNEXES**

Annex A Qualified Experts for Regenerative Plan Development

Annex B Assessment, Monitoring & Testing Methods

Annex C Worksheets Template (available for download [here](https://agreenerworld.org/wp-content/uploads/2020/10/Annex-C-Worksheets-Template-Pilot-v1.xlsx) or by request)

Annex D List of Prohibited and Restricted Inputs

Annex E List of Allowed Inputs

Annex F Recognition/Equivalencies with other Certifications

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**Certified Regenerative by AGW Regenerative Plan**

**Section 1: Background**

Stewardship Details, Holding Background, Maps, Land Use and Cropping Overview, Buildings and Livestock Information

|  |  |
| --- | --- |
| **Name of Holding** | Beverly Blackwell Bowen |
| **Name of Person Completing the Plan** | Beverly Blackwell BowenMilexa Polanco, RAFI TA |
| **Contact Name** (this may differ from above) |  Teiara Turner/Beverly Blackwell Bowen |
| **Holding Address** | 369 NC Hwy 87 Reidsville, NC 27320 |
| **Holding Size** (please specify hectares or acres) | 60 |
| **Enterprises** (including agrotourism, education, conservation, tours, etc.) | **Agriculture:**Cow/Calf Operation, Specialty Crops, wild-harvested products for personal use, and perennial fruits for personal use.  |
| **Products Sold** | Beef Cattle Calves and Specialty Crops |
| **Please List Other Certifications Held** *Note: If Certified Organic, please attach a copy of your Organic System Plan* | None |
| **Has the holding’s Regenerative Plan been developed in conjunction with a Qualified Expert? Please describe their experience and qualifications.** (Reference: Annex A of the Certified Regenerative by AGW Standards)  | Yes [x]  No [ ] Description of Qualifications:Beverly Bowen is a second-generation farmer on the farm she operates today, part of a family with six generations of farming experience. She has extensive practical knowledge, including involvement in NRCS and Farm Services Conservation Programs, along with hands-on farming expertise.Milexa Polanco: Experienced with 10+ years of NRCS soil conservation. See resume.  |
| **Does the individual or entity seeking *Certified Regenerative* status for this holding have management control of the holding?** | Yes [x]  No [ ]  |
| **Is this holding part of a network, cooperative, producer group or similar?** | Yes [x]  No [ ]  |
| **Are any of the following activities occurring on the holding:** **- Fracking****- Mining****- Topsoil removal****- Destruction of riparian zones****- Deforestation****- Slash and burn farming****-** **Peat harvesting** | Yes [ ]  No [x] **If yes, please describe:** |

**The Holding:**

Please provide a background of the holding’s history and background including traditional stewardship (if not known, <https://native-land.ca/> may be helpful). Include known management history, current farming practices (including diversified enterprises such as farm stays), where products are sold and future plans. Future plans should include the starting point, goals, and milestones to each goal.

|  |
| --- |
| Blackwell’s Farm is a second-generation operated farm. The farm was originally purchased in 1945 and primarily operated as a tobacco farm with row crops and livestock. For several decades tobacco was the mainstay of the farm providing a stable income and establishing a family’s presence in the agricultural community. In the late 1980’s the farm, like many others, faced significant changes due to the USDA tobacco buyout programs. These programs were designed to reduce the production of tobacco in the US and support farmers in transitioning to other crops. With the post buyout the farm diversified into other commodities crops. This shift marked a significant change in our farming practices, as we adapted to growing different types of crops.With carrying on the family legacy, as the second generation managing the farm and continuing the legacy started by our parents. The generational transition has brought both continuity and innovation to the farm with new practices – e.g. cover crops, limited to no-till practices, managed grazing and seasonal grasses.The farm has been revitalized with technology and innovation to meet USDA standards with air, water and soil conservation practices. The farm is currently enrolled in USDA Conservation Programs to include Conservation Stewardship Program and Conservation Reserve Program for Pastureland. Blackwell’s Farm now operates a cow-calf operation. This involves breeding cows and raising calves until they are ready to be sold (normally at 210 days after birth), which has been a stable source of income and a way to utilize pastureland effectively. The farm also grows seasonal fall green crops which include vegetables like kale, mustard, turnip and daikon radishes. These crops are typically in high demand during the fall and can be a good complement to our other farming activities. Our seasonal crops are sold to a Food Box CSA, where we are directly connected with local consumers who purchase shares of our harvest. This model provides a reliable market for our produce and fosters a strong relationship with the community. In addition to the CSA, we sell produce directly to local consumers. This direct marketing approach has allowed us to provide fresh locally grown food to our community. The farm has gone from a tobacco focused operation to a diversified agricultural business which reflects broader trends in farming, such as the decline of tobacco cultivation and the rise of local and sustainable food movements. By adapting to these changes and engaging directly with our community, our farm continues to thrive and maintain its importance in the local agricultural landscape. This regenerative plan is intended to extend beyond 5 years as these are continuous goals. The goal of the farm is to maintain financial sustainability while continuously improving the land. As long as the farm is operated by the second generation it will be maintained in its existing capacity. Now, with succession planning and the next generation, it will be their decisions as to how they will operate it and select alternative enterprises. Succession planning and considering alternative enterprises for the next generation will be crucial in ensuring the continued success and growth of Blackwell's Farm. It's exciting to think about how the farm may continue to evolve with new ideas and innovations in the future while maintaining the core values and legacy established by previous generations.We are fully committed to farming regeneratively and doing things the right way.  |

**Maps:**

Please attach all of the holding’s maps with the submission of the Regenerative Plan Template. Please use the following checklist to ensure all required information is visible on the maps:

[x]  Boundaries

[x]  High-risk areas

[x]  Streams or watercourses

[x]  Wooded areas

[x]  Fields and field uses

[x]  Areas of special biodiversity for any wild-harvested plant or fungi species

[x]  Testing Sites (areas of assessment or measurement)

[x]  Locations of buildings and residences (please include the exact number of buildings)

[x]  Locations of planned maintenance or restoration

[x]  Historic buildings or sites of archeological importance

[x]  Protected Sites

Farm maps are attached or linked below and contain the details listed above. Yes [x]  No [ ]

|  |
| --- |
| **Electronic Links to Maps** (if applicable—include link here or email with your application):<https://www.google.com/maps/d/u/0/edit?mid=1KxWPEViJ8dvnfBvFfQytJH3gVt0ZOoU&usp=sharing>  |

**Land Use and Cropping**

Using the boxes and tables, please describe the holding’s cropping, detailing crops grown, crop rotations, tillage methods and frequency, managements of threats (from pests, weeds, disease, etc.) along with details of the markets they go into. Please also include details of manure storage (in order minimize the loss of nutrients and leaching) and how fertility is maintained and not exploited. Detail how imports and exports are balanced, along with a plan to decrease imports over time. The land use and cropping practices will be helpful to identifying risks in other areas of this plan. Practices may impact multiple risk areas.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| The majority of Blackwell’s Farm is in USDA Conservation Plans (CSP & CRP) except for 3.56-acres for Cover Crops/vegetable production and a homestead site location. The 3.56-acre section has a total of two annual plantings. By employing a combination of diverse crops, strategic crop rotations, and sustainable practices like cover cropping and no-till method, the farm can maintain soil health, reduce pest pressures, and supports long term agricultural productivity. This approach has not only benefited the environment but also enhanced the resilience and profitability of farming operations.

|  |  |  |  |
| --- | --- | --- | --- |
| **Crop Details Fall/Winter 2023/Spring/Summer 2024** |  |  |  |
|  |  |  |  |
| **Field 1** | **Field 2** | **Field 3**  | **Field 4** |
| **Fall/Winter 2023** | **Fall/Winter 2023** | **Fall/Winter 2023** | **Fall/Winter 2023** |
| Mustard Greens | Wheat | Cereal Rye/Rye Grass | Turnips/Daikon Radishes |
| **Spring/Summer 2024** | **Spring/Summer 2024** | **Spring/Summer 2024** | **Spring/Summer 2024** |
| Sunflowers | Pearl Millet | Sudan Grass | Milo |
| **Tillage Method** | **Tillage Method** | **Tillage Method** | **Tillage Method** |
| No-Till (2023) | No-Till (2023) | Limited Till - disc gang/harrow (2023) | Limited Till - disc gang/harrow (2023) |

 |

**General Cropping Details**

|  |  |  |
| --- | --- | --- |
| **Crop** | **Acres/Hectares**  | **Typical tonnage harvested (acre/Hectare)** |
| Wheat/Cereal Rye | 1 | 1 - 1200lb/hay bale (6/1/2024)T |
| Greens/Daikon Radishes/Turnips | 1.5 | 6 tons (Cattle Feed) & Cash Crop $2990 Fall 2023 |
| Cereal Rye | 1 | 5 – 1200/lb. bales (6/1/2024) |
| Grassland (Cut) | 9.5 | 14 – 1200lb. bales (6/1/2024) |
| Milo | 1 | Cut and left to reseed.  |
| Sudan | 1 |  |
|  |  |  |

**Cultivations**

The table below should be completed in order to provide details of the cultivations that take place for each crop. Generally, the deeper and more frequently cultivations take place, the more carbon is lost from the soil. An objective would be to reduce the amount of cultivations over time.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Crop** | **1st Cultivation and Depth** | **2nd Cultivation or Drill** | **3rd Cultivation or Drill** | **4th Cultivation or Drill** |
| Wheat/Cereal Rye | None - No-till | Seeder Planter |  |  |
| Greens/Daikon Radishes/Turnips | Disc gang/harrow 2” | Seeder Planter |  |  |
| Cereal Rye | Dis gang/harrow 2” | Seeder Planter |  |  |
| Milo | Dis gang/harrow 2” | Seeder Planter |  |  |
| Sudan | Dis gang/harrow 2” | Seeder Planter |  |  |

**Irrigation**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Crop** | **Field** | **Irrigation Type/Method of Application**  | **Water Source** | **Total Number of Irrigations** | **Net Water Use per Acre/Hectare** | **Timescale for Reduction** |
| *Almonds* | *Block 4* | *Flood* | *Culvert- Tulare County Irrigation District* | *60* | *2.5 acre-feet* | *4 years* |
| None used |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**Cropping Inputs**

Please complete the table for the crop inputs you currently use for fertility (including manure), weed and pest/disease control. *Note:* *The use, quantity and application method of restricted ingredients must be reviewed and agreed by AGW.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Crop** | **Product** | **Restricted or Prohibited?** | **Details/Brand name/Active Ingredient** | **Quantity (kg/ha)** | **Reason**  | **Frequency** | **If Restricted or Prohibited: Opportunities to Reduce Use** |
| Wheat/Cereal Rye | Fertilizer | Restricted | 17-17-17 | 250lbs per acre | Crop growth | Each crop planting | Nitrogen generating crops and building soil organic matter (originally tobacco fields) |
| Greens/Daikon Radishes/Turnips | Fertilizer | Restricted | 17-17-17 | 250lbs per acre | Crop growth | Each crop planting | Nitrogen generating crops and building soil organic matter (originally tobacco fields) |
| Cereal Rye | Fertilizer | Restricted | 17-17-17 | 250lbs per acre | Crop growth | Each crop planting | Nitrogen generating crops and building soil organic matter (originally tobacco fields) |
| Pasture | Herbicide | Restricted | Bullzeye (glyphosate) | Spray as needed. “Hack and squirt” approach. See biodiversity section for more information. | Control of Tree of Heaven | As needed | Required by the state for control of invasive species |
| Pasture | Agricultural Lime | Allowed | Lime | 50 lbs oer 1,000 sq. ft | Raise soil pH  | Annually or less frequently as results indicate | Continued soil testing to verify pH improvement |

**Additional Details (if needed):**

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|  We are fully focused on growing grass and nutrient management. Soil samples are collected every 2 to 3 years to verify pH and a full soil profile to determine if amendments are needed. Based on management and soil test results, we have been able to change the ratio (reduce) the use of synthetic fertilizer over time. Precision spreading is also used to target areas. The Soil Health Institute will also be performing soil testing on our farm and the state of North Carolina has performed extensive testing over the summer of 2024- test results are pending. Blackwell’s farm has also been used as a case study for the Environmental Defense Fund with the goal of increasing Soil Organic Matter (SOM) and moving to no till practices (see: <https://business.edf.org/insights/small-north-carolina-farms-find-profitability-in-climate-change-resilience/>) The farm has been battling severe drought conditions for the past two years, caused by insufficient rainfall and prolonged hot summers. Bulk synthetic fertilizer is currently in use, with its application gradually decreasing each year as soil organic matter and fertility improve. Fall fertilization is utilized for pasture management. Application rates are determined based on acreage and recommendations from soil sample results.Phosphate is also applied to control broom sage. No alternative is available to control the broom sage as it is highly invasive and this is a no till system. Physical elimination has been ineffective and inefficient. Application rates are based on the labeled recommendations. We are reducing this over time as pH levels indicate. A pasture rake is also utilized to spread cattle manure across the pastures to build fertility. Seasonal grass has been planted and planned rotational grazing practices are used (see Livestock for more detail). The grass varieties in the pastures are a mix of native grasses, such as bluegrass, wild oats, greasy grass, and Bermuda grass, which help sustain the land through heat conditions. Additionally, older pastureland from the previous generation includes fescue, orchard grass, and clover, which contribute to nitrogen fixation. Most of the pastureland has been re-seeded in the past two years. Since 2023, we have allowed the pastures to seed out and drop seeds naturally for reseeding. Afterward, we bush hog the stems to return organic matter to the soil, ensuring that hay is not removed from these pastures.As of spring 2024, dung beetles have returned to the manure piles in the pastures, indicating improved soil health. Our first hay harvest occurred in June 2024, with grass clipped at a height of 8-12 inches instead of a lower cut. Currently, we are yielding approximately 1 ton of hay per acre from the pastures. |

**Buildings**

Farm buildings can play a part in the farms regenerative plan. Consideration should be given to new farm buildings and their impact on the surrounding area, as well as their environmental impact. For example, concrete requires a significant quantity of energy when manufactured whereas timber does not.

Please describe current plans for buildings (current and future). For current buildings describe any provision for birds and bats.

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| In 2023, the farm had constructed a new 30' x 31' x 12’ storage shelter for hay with a ground cover of geotextile fabric and gravel. This strategic move aims to enhance the farm’s sustainability and productivity. The shelter is partially enclosed to block out excessive sunlight and moisture, thereby preventing nutritional degradation of the hay. Although no specific provisions were made for birds or nesting, the roofline has attracted spring nesting. |

**Recycling:**

Recycling should be an integral part of regenerative farming (although it is preferable to reduce the creation of waste in the first place). Consideration should be given to all packaging and plastic wrap used on the holding.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Waste Product** | **Current disposal method** | **Quantity produced per year** | **Plans for reduction in use or alternatives, including recycling options** | **Timescale** | **Annual Review** |
| Seed & Fertilizer Bag | Recycled w/Ag Supplier | 100 lbs | Switch from individual bags to bulk reuseable bags.  | Annually reduce |  |
| Plastic & Paper Products | Recycled on Farm w/Recycle Bins and Pick up w/Waste Management and Garbage Disposal Service - biweekly | 1000 lbs | Reduce use of bottled products | Annually reduce |  |
| Waste Oil and Hydraulic Fluid | Used oils and fluids are carefully collected and stored in designated, secure containers to prevent spills or contamination. Once an adequate amount is gathered, the containers are transported to a local service garage, where the materials are responsibly recycled. | Varies | Continue to responsibly recycle via the local service garage. Continued reduction of use of tractor via no till/min till system will allow us to reduce these fluids over time.  | Annually reduce |  |
| Metals | All unusable metals, including farm equipment, aluminum, and tin, are responsibly collected and recycled. When metal items reach the end of their usable life, they are carefully sorted and stored on the farm until enough material accumulates for a trip to the local metal recycling facility. There, the metals are processed and repurposed, reducing waste and contributing to the circular economy.  | Varies | Continue to repurpose materials until they are no longer usable.  | Annually reduce, as possible |  |
|  |  |  |  |  |  |

**Livestock**

Please describe your livestock enterprise. Detail of the following must be included: type, breed, housing, number of animals, feeding details, veterinary procedures, medicines used and pasture—including typical grass species present. Please also detail how are the animals and/or animal products are sold. Rented or contracted livestock must be included, even if they only spend a portion of the year on the holding.

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| --- |
| The farm specializes in producing Black Angus Beef Cows, with a herd consisting of 8 breeders and one bull. The maximum capacity at any given time is 17, including calves. The cows are housed outside year-round and are primarily grass-fed. They have access to fresh water from ~~a~~ cattle waterers and granular minerals from a feeder. During winter, when grass is limited or unavailable, the cows are fed hay and supplemented with Powerstroke 16% Protein Cattle Feed. The farm plans to certify beef cattle to the Certified Animal Welfare Approved by AGW certification within 3 years. The pastureland consists of various grass species: clover, fescue, greasy grass, orchard grass, bluegrass, wild oats, Indian grass, Bermuda grass, and Johnson grass.Cattle moved when the grass is eaten to a certain level where the grass isn’t too short to grow back. Rule of thumb: 2-3” then cows are rotated. No more than 1 cow/minimum 2 to 2.5 acres. Does this to reduce feed and hay needs. Calves are sold at a maximum of 210 days after birth to local buyers for herd replacement and additional stocking. All remaining cattle are sold at local stockyards.Cattle livestock tracking records are maintained on the farm using cattle ear tag numbers. The farm adheres to vaccine guidelines outlined by Merck Pharma (Spring and Fall) for breeding heifers. We also have a protocol with Carolina Equine, a local veterinary service, to handle cattle issues beyond their control.Cattle are managed with a 1:2 stocking rate (maximum of 1 cow/2 acres to 2.5 acres) to reduce feed and hay needs. Cattle are rotated across pastures via poly wire paddocks and rotated when the forage is roughly 2”-3” tall. Farmer ensures cattle are moved before the forage and grasses are too short to grow back. A pasture rake is used to rake manure across the pastures to promote fertility. Cattle are fed grass hay for roughly 60 days/year in a sacrifice pasture during the early winter. This sacrifice pasture is located in a warmer part of the farm to ensure animal comfort. We run sections of rye grass for flash grazing on winter days then back into sacrifice pasture in the evenings. In the early fall season, daikon radishes and turnips are planted, which are harvested upon maturity during the winter months for cattle feed. We harvest approximately 250 lbs. of turnips and radishes each day, mixing them with about 50 pounds of an all-grain feed, Powerstroke/Performance Feed. This mixture is fed to the herd of cows, helping to maintain their body condition throughout the winter months.Cattle will be allowed in the garden area once harvest is complete. Manure will be raked and spread across farmed area to increase fertility.  We will plant a mix clover/trefoil as a cover crop in this area beginning in 2025 and we will compost garden waste to spread prior to spring planting. As soil fertility improves in the pasture area, we will put up our own hay to feed in the winter months. Radishes and turnips will also be fed to cattle to meet their increased energy needs. This volume is planned to increase 10% annually so the farm can phase out purchased feed. |

**Livestock Management Plan:**

A Livestock Management Plan for the species you are certifying should be completed. Templates can be requested from AGW or found on the AGW website: [Farm Templates & Plans - A Greener World](https://agreenerworld.org.uk/certifications/farm-templates-plans/)

*Note: The Certified Regenerative by AGW standards require that at least one species is certified to the Certified Animal Welfare Approved by AGW (AWA) program after 3 years and all species on the farm after 5 years. Please include a plan and timeline for attaining AWA certification for each species on the holding.*

Livestock Management Plan(s) is attached and contain the details listed above. Yes [x]  No [ ]

**General Livestock Details**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Stock Numbers** | **Stocking density** | **Owned / Tack** | **Production Type** | **Grazing System** | **Feed** | **Housing System** | **AWA – Yes / No, if No, how will you achieve AWA, including timescales.** |
|  Angus Beef Cattle  |  16 | 1 head/ min. 2 acres |  Owned |  Calves |  Grass w/hay and fed | Supplemented w/fed |  Pasture grass-fed |  No2026? Depending on Cattle Prices |
|  |  |  |  |  |  |  |  |  |

**Livestock Feeds Purchased**

Please list livestock feeds that are brought onto the farm from elsewhere. This may be forage or concentrate.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Species** | **Feed** | **Tonnage**  | **Frequency** | **Total per Year** |
| Beef Cattle | 16% Protein Powerstroke Feed | 3 tons | Twice annually | 6 tons |
|  |  |  |  |  |

**Restricted Inputs for Livestock**

Please list below veterinary inputs used on any livestock.  *Note:* *The use, quantity and application method of restricted ingredients must be reviewed and agreed by AGW.*

|  |  |  |  |
| --- | --- | --- | --- |
| **Species** | **Product/Active ingredient** | **Reason**  | **Frequency** |
| Cows | Vira Shied 6 1.5 - Bovine Rhinotracheitis Virus Diarrhea Parainfluenza3 Virus Vaccine | Blackleg/diarrhea | Bi-annually |
| Cows | 20/20/ Vision - Clostridium Chauvoei-Septicum Novyi-Sordellii-Perfringens Types C&D Bacterin-Toxoid | Pinkeye/respiratory | Bi-annually |
| Cows |  Safeguard - fenbendazole | Internal parasites/worms | Bi-annually |
| Cows | Ivermectin - 5 mg ivermectin/ML | External parasites | Bi-annually |
|  |  |  |  |

**Section 2: Calculating Risk**

In order to complete the regenerative plan it is necessary to calculate what risks there are on the holding that may affect the surrounding ecosystem, including soil, water, air, biodiversity, human and financial, and at what level the risk is. Current practices that are high risk should be addressed first.

*Example: A holding identifies erosion as a risk due to exposed soils in wet months. Another potential risk could be the reduction of soil organic matter from frequent cultivations. An action is required to mitigate these risks to soils. These could include planting a perennial crop to reduce and/or prevent runoff or erosion.*

Risk can be calculated by:

1. Consider the likelihood of an event happening.
2. Consider the potential impact(s) if the event happens.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Impact** | High | Plan for Action | Action | Action |
| Medium | Monitor | Plan for Action | Action |
| Low | Monitor | Monitor | Plan for Action |
|   |   | Low | Medium | High |
|   |   |  **Likelihood of Activity Occurring** |

The table below can be used to conduct a risk assessment and determine if the risk is significant enough to require action:

Example: A farm grows maize which has caused soil compaction in the field due to wet weather at harvest in past seasons, so the impact of this action is high. The likelihood of impaction occurring is also high as the farm continues to grow maize. The table shows that action would be required to mitigate this risk. The general process flow should follow:

**Complete Risk Analysis> Establish a Baseline> Establish Targets/Goals > Conduct Annual Assessments**

**Soil**

Consider the risks to soils on your farm. Once they have been identified, you must assess how these risks can be reduced or removed. Actions to mitigate risks must be in place for each risk identified. Completing the table below adding in the areas of risk and how the risk is mitigated for the soil. At minimum, two measures of soil health must be completed. Please add additional rows as needed.

*Reminder: The field reference locations stated must be identified on the farm maps that are supplied.*

**Soil Assessment, Annual Review and Monitoring (Please add rows as needed)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source** | **Field Reference/****Map key**  | **Risk Level** **High/****Med/****Low**  | **Objective** | **How will objective be met?** | **How will progress be measured?** | **Timescale** |
| Fertility | See map | High | Increase soil fertility | Planting of cover crops and rotational grazing/manure raking | Soil testing  | Every 2 years |
| Lack of Soil Organic Matter (SOM) | See map | High | Increase SOM | Planting of cover crops and rotational grazing/manure raking | Soil testing | Every 2 years |
| pH | See map | Low | Increase soil pH | Apply lime  | Soil testing | Every 2 years |
| Soil Biodiversity |  See map | Low | Increase soil biodiversity | Pasture management and cover cropping | Worm counts | Annually |
| Note: SHI will be collecting samples as part of the Climate Smart Commodities Grant. |  |  |  |  |  |  |

**Assessment Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source Monitoring** | **Assessment Results – Year 1** (2024) | **Assessment Results – Year 2**(2025) | **Assessment Results – Year 3**(2026) | **Assessment Results – Year 4**(2027) | **Assessment Results – Year 5**(2028) | **Assessment Results – Year 6**(2029) |
| Low fertility- soil testing suite | TBD |  |  |  |  |  |
| Lack of SOM | TBD |  |  |  |  |  |
| pH | TBD |  |  |  |  |  |
| Worm counts | TBD |  |  |  |  |  |

**Additional Details (if needed):**

|  |
| --- |
| See cropping. Soil samples are collected every 2 to 3 years. General soil suites are used, with emphasis on soil pH to determine if additional (or fewer) soil amendments are needed. Worm counts are also performed under cow patties- both grub worms and earthworm counts. Worms are counted per square foot. |

**Water**

Consider the risks to water on your farm. For example, an objective may be to reduce manure leaching. Summarize risks or opportunities to water from activities carried out on the holding, mitigations, baseline assessment results and ongoing measurements of results. Assessment methods may be lab-based or carried out on the holding. Once they have been identified, assess how these the risks can be reduced or removed. Please add additional rows as needed.

*Note: Assessment to be carried out at the time of the perceived risk.*

**Water Assessment, Annual Review and Monitoring (Please add rows as needed)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source** | **Field Reference/****Map key**  | **Risk Level** **High/****Med/****Low**  | **Objective** | **How will objective be met?** | **How will progress be measured?** | **Timescale** |
| *None* |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

**Assessment Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source Monitoring** | **Assessment Results – Year 1** (2024) | **Assessment Results – Year 2**(2025) | **Assessment Results – Year 3**(2026) | **Assessment Results – Year 4**(2027) | **Assessment Results – Year 5**(2028) | **Assessment Results – Year 6**(2029) |
| *None* |  |  |  |  |  |  |
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**Additional Details (if needed):**

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| --- |
| There is no risk to runoff or erosion. The pond area and banks are covered with grass, buffers and living roots. There is roughly 30’ of grass between the pond and fence line. In 2014, the farmer worked with government agencies to address conservation and erosion issues by contouring the land and altering the water flow from the fields and pastureland. This project minimized erosion and improved pond management. Ditches and gullies were closed, allowing for a natural flow of water to tributaries, creeks, and the pond. Additionally, the spillway for the pond was reconstructed, the dam was cleared of trees, and the banks were rebuilt and excavated.Livestock are fenced out of waterways, including the pond, creeks, and tributaries, to protect water quality and prevent erosion. |

**Air**

Summarize risks or opportunities to air from activities carried out on the holding (dust control, emissions, noise, odor, etc.), mitigations, baseline assessment results and ongoing measurements of results. Environmental permit regulations can also be considered. Please add additional rows as needed.

**Air Assessment, Annual Review and Monitoring (Please add rows as needed)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source** | **Field Reference/****Map key**  | **Risk Level** **High/****Med/****Low**  | **Objective** | **How will objective be met?** | **How will progress be measured?** | **Timescale** |
| None |  |  |  |  |  |  |
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**Assessment Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source Monitoring** | **Assessment Results – Year 1** (2024) | **Assessment Results – Year 2**(2025) | **Assessment Results – Year 3**(2026) | **Assessment Results – Year 4**(2027) | **Assessment Results – Year 5**(2028) | **Assessment Results – Year 6**(2029) |
| None |  |  |  |  |  |  |
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**Machinery Inventory (use for calculating emissions)**

Please list all powered machinery (tractors, chainsaws, generators, etc.) and the amount of fuel used. If contractors are used, use a total figure of what they may use while on the farm. Alternatively, you may update the chart With just annual petrol and diesel usage. Please add additional rows as needed.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Machine** | **Opportunities for reducing emissions** | **Emission status (e.g. Euro 5 or 6 or not stated)** | **Annual Fuel Use (gallons or litres)** | **Assessment Results – Year 1** (2024) | **Assessment Results – Year** (2025) | **Assessment Results – Year 3**(2026) | **Assessment Results – Year 4** |
| Kubota BX2380 | Less frequent mowing around fields and pond area | N/A | 49 gallons | 49 gallons |  |  |  |
| Kubota 6060 | None | N/A | 225 gallons | 225 gallons |  |  |  |
| Kubota 3240 | None | N/A | 100 gallons | 100 gallons |  |  |  |
| Cat Generator | None | N/A | Only when needed for power outage | Only when needed for power outage |  |  |  |
| Echo Chainsaw | None  | N/A | 4 gallons | 4 gallons |  |  |  |
| Husqvarna Chainsaw (2) | None | N/A | 10 gallons | 10 gallons |  |  |  |
| Stilt Rotary Tiller | None | N/A | 2 gallons | 2 gallons |  |  |  |
| **Contractors: Total fuel used**  |  |  |  |  |  |  |  |
| **Grand Total** |  |  | *390 gallons* | **390 gallons** |  |  |  |

**If wood is used for heating, please detail the burning protocol followed and the buildings being heated:**

|  |
| --- |
| Supplement wood heat is used for heating the Farmhouse.  |

 **Please detail the plan to reduce fossil fuel and carbon burning technologies over time:**

|  |
| --- |
| One approach to reducing fossil fuel and carbon-burning technologies over time could involve implementing a phased transition plan towards more sustainable and eco-friendly alternatives. Here are the steps that will be taken in our future farm plans:1. Start by focusing on improving energy efficiency across all operations on the farm. This will involve conducting energy audits to identify areas where energy is being wasted and then implementing measures to reduce consumption.
2. Explore the use of electric or hybrid machinery and equipment for agricultural activities to minimize the use of carbon-burning technologies like diesel-powered tractors. These are options to explore with future purchases.
3. Implement carbon offsetting initiatives such as planting trees, cover crops, and participating in carbon credit programs to balance out any remaining carbon emissions from farm operations. Also, enroll in climate smart agriculture programs supported by the USDA and NRCS.
4. Reduce the use of synthetic fertilizer.
 |

**Biodiversity**

Consideration should be given to the impact farming has and how the risk to biodiversity can be reduced. Please use the table below to list all habitats the holding currently has, how these can be protected and if they can be expanded. Sensitive flora and fauna should be indicated, and a plan for protection (including monitoring and frequency) must be included. Please add more rows as needed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Cause of Risk** | **Field Reference/****Map key**  | **Risk Level** **High/****Med/****Low**  | **Objective** | **How will objective be met?** | **How will progress be measured?** | **Timescale** |
| Impact on wildlife and native plants from rural development | Grazing fields | low | Maintain wildlife habitat for birds and animal feeding and breeding  | Keep existing woodland habitats and natural areas free of pastureland and crop production | Sighting and tracking log with locations and pics | Immediately |
|  |  |  |  |  |  |  |

**Assessment Results**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Risk / Source**  | **Assessment Results – Year 1** (2024) | **Assessment Results – Year 2**(2025) | **Assessment Results – Year 3**(2026) | **Assessment Results – Year 4**(2027) | **Assessment Results – Year 5**(2028) | **Assessment Results – Year 6**(2029) |
| *Impact on wildlife and native plants from rural development* | *See Species log*  |  |  |  |  |  |
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As part of the regenerative plan for biodiversity it is important to make a note of species of flora and fauna. This can then be used as a measure over time to show improvements.

**Flora and Fauna Species Log**

The number of species seen on the farm should be counted. Please add rows as needed.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Species** | **Type** | **Counting Date** | **Method** | **Assessment Results – Year 1** (2024) | **Assessment Results – Year 2**(2025) | **Assessment Results – Year 3**(2026) | **Assessment Results – Year 4**(2027) | **Assessment Results – Year 5**(2028) |
| *Rabbit* | *Eastern Cottontail Rabbit* | *May 30* | *Sited while cutting hay fields*  | *26* |  |  |  |  |
| *Birds* | *Barn Shallows* | *May 29* | *Counted on fence line while mowing* | *8* |  |  |  |  |
| *Cervidae* | *Deer* | *May 29* | *Near pond area or in fields* | *2 to 3 at a time* |  |  |  |  |
| *Birds* | *Turkey* | *May 29* | *Stay near pond area* | *6* |  |  |  |  |
| *Fish* | *Blue gill* | *May 29* | *Visual/catching* | *TBD* |  |  |  |  |
| *Fish* | *Largemouth bass* | *May 29* | *Visual/catching* | *TBD* |  |  |  |  |
| *Fish* | *Sunfish* | *May 29* | *Visual/catching* | *TBD* |  |  |  |  |
| *Birds* | *Blue Herron* | *May 29* | *Counted while at pond* | *1* |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

**Habitat Improvement**While there may be risks to habitats there may also be opportunities that are identified where habitats may be improved. Please write these below if applicable.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  **Habitat type** | **Current habitat condition / quantities (where known)** | **Species / habitat protection methods / plans to increase population** | **Opportunities for Improvement**  | **Timescales** |
| Woodland | Eliminate  | Multiflora Roses and Tree-of- Heaven | Control annually with an herbicide | On going annual project |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

See Comment on Habitat Improvement:

**Wild Harvest:**

Please describe your wild harvesting practices.

|  |
| --- |
| Woodland management: The farm’s approach to woodland management is "nobody is going to cut any timber". Hardwood is not harvested as timber. The wooded pond area is left undisturbed, providing valuable wildlife habitat. Pine trees were planted 50 years ago, 2x4s were needed – so, 3 to 4 trees were harvested for timber. Tree of Heaven is controlled by following NRCS practices however the farm is no longer under a conservation plan for Tree of Heaven. Spicewood Berries are wild harvested for personal use only. Apples and other fruits are harvested for personal use only (i.e. harvested for apple butter). Spicewood Berries (see dictionary.com for more information gathered directly from farm) are harvested in the meadowland each fall to be used as a spice like what our ancestors and Native Americans harvested and used for allspice and teas. Spicewood berries, often referred to as Carolina allspice or sweetshrub (Calycanthus floridus), can be harvested and dried to be used as a substitute for allspice. Here’s a step-by-step guide on how to harvest and dry these berries:**Harvesting Spicewood Berries****Timing:**Harvest the berries in late summer to early fall, when they are fully ripe and red in color. **Location:**Spicewood shrubs are typically found in the southeastern United States, in moist, shaded areas such as woodlands or along streams.**Collection:**Use pruning shears or scissors to cut the clusters of berries from the shrub. Be careful not to damage the plant.**Drying Spicewood Berries****Cleaning:**Rinse the berries thoroughly in cool water to remove any dirt or debris.Pat them dry with a clean cloth or paper towel.**Preparation for Drying**:Spread the cleaned berries in a single layer on a drying rack or a baking sheet lined with parchment paper. Make sure they are not touching each other to ensure even drying.**Drying Process:**Air Drying: Place the rack or sheet in a warm, dry, and well-ventilated area. This method can take several days to a couple of weeks, depending on the humidity and temperature.Dehydrator: If you have a food dehydrator, set it to 135°F (57°C) and place the berries on the trays. Drying time will vary but generally takes 8-12 hours.**Checking for Doneness:**The berries are fully dried when they are hard and brittle. They should not feel sticky or soft.**Storage:**Once completely dried, store the berries in an airtight container in a cool, dark place. Properly dried and stored berries can last for a couple of years.**Using Dried Spicewood Berries as Allspice Substitute****Grinding:**When ready to use, grind the dried berries into a fine powder using a spice grinder or mortar and pestle.**Cooking:**Use ground Spicewood berries as you would use allspice in recipes, keeping in mind that the flavor might be slightly different but will still provide a warm, aromatic spice similar to allspice.By following these steps, you can effectively harvest and dry Spicewood berries to use as a unique and flavorful substitute for allspice in your culinary creations. Annually, I harvest and dry approximately one pound of berries for use and to provide to friends. Rifle hunting is allowed on the property. Only 1 hunter and his son are authorized to harvest deer on the holding to assist in controlling deer population. Hunting is solely used as a conservation practice and consumed for meat. The farmer does not have a financial relationship with the designated hunter.  |

**Please describe any plans for watercourse or aquatic habitat restoration:**

|  |
| --- |
| See water section. Restoration has been completed.  |

**Additional Biodiversity Details (if needed):**

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| --- |
| **A natural area has been developed in the area surrounding the pond and often see blue Herron, turkey and deer. The farmer is hoping to encourage quail populations. Not traditional. Hoping to encourage quail populations.** **Note: Habitat Improvement for Biodiversity.**The "hack and squirt" method is an effective technique for controlling invasive tree species such as the Tree of Heaven (Ailanthus altissima). This process involves making cuts into the tree's bark and applying a systemic herbicide directly into the wounds, which allows the herbicide to be absorbed and translocated throughout the tree, ultimately killing it. Bullzeye, a concentrated herbicide containing glyphosate, is often used for this purpose.Here’s a step-by-step guide on how to use the hack and squirt method with Bullzeye herbicide:**Materials Needed:*** Hatchet or chainsaw
* Bullzeye herbicide (or another suitable glyphosate-based herbicide)
* Spray bottle
* Protective gear (gloves, safety glasses, long sleeves, etc.)

**Steps:*** **Preparation:**
	+ Wear appropriate protective gear to avoid contact with the herbicide.
	+ Mix Bullzeye herbicide according to the manufacturer's instructions. Typically, a 50-50 mixture with water is used for hack and squirt applications.
* **Selecting Trees:**
	+ Identify the Trees of Heaven that need to be treated. Ensure they are healthy enough to translocate the herbicide effectively.
* **Making Cuts:**
	+ Use a hatchet or chainsaw to make downward cuts into the tree’s bark, about shoulder height. Each cut should penetrate the bark and cambium layer but not deep into the wood.
	+ Space the cuts about 2-3 inches apart around the circumference of the tree. For larger trees, ensure the cuts are spaced closer together.
* **Applying Herbicide:**
	+ Immediately after making the cuts, apply the Bullzeye herbicide into each cut using a spray bottle or squeeze bottle. Fill the cuts with herbicide to ensure thorough absorption.
	+ Make sure to apply the herbicide promptly to prevent the tree from sealing the wounds and reducing the effectiveness of the treatment.
* **Monitoring:**
	+ Monitor the treated trees over the next several weeks to months. Signs of effective treatment include wilting leaves, yellowing, and eventual death of the tree.
	+ It may take a full growing season for the trees to die completely.
* **Follow-Up:**
	+ Re-treat any surviving trees the following year if necessary.
	+ Consider removing dead trees to prevent hazards and encourage the growth of native species.

**Safety and Environmental Considerations:*** Always follow the herbicide label instructions and local regulations.
* Avoid applying herbicide during windy conditions to prevent drifting to non-target plants.
* Be cautious near water bodies, as glyphosate can be harmful to aquatic life.
* Use NRCS guidelines and recommendations to meet environmental specifications.

Using the hack and squirt method with Bullzeye herbicide can be a practical and efficient way to manage and reduce populations of invasive Trees of Heaven. Also, semiannual spraying of herbicide is used to control the spread of multiflora roses.Top of FormBottom of Form |

**Human**

Please detail the roles of all those working at the holding, along with benefits provided. Please add rows as needed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Name** | **Role** | **Average weekly hours worked** | **Hourly rate** | **Rest periods and rest days provided** | **Details of accommodation provided** | **Benefits provided** |
| Farmer 1 (Beverly) | Owner/Operator | N/A | N/A | N/A | N/A | N/A |
| Farmer 2 (Seth) | Owner/Operator | N/A | N/A | N/A | N/A | N/A |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
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**Living Wages:**

Please share the local living wage. For links to local living wages, please reference Annex B.

*Note: Please be sure to include the living wage and not local minimum wage.*

|  |
| --- |
| N/A Family Operated – Goals are to maintain a self-sufficient farm operation that operates efficient and profitable.  |

**Society and Community:**

Please detail if community events or outreach occurs on the holding, such as tours, education days, etc.

|  |
| --- |
| No events are held on the farm.  |

**Health and Safety Risk Assessments:**

|  |  |  |  |
| --- | --- | --- | --- |
| Date of assessment: | September 18, 2024 | Assessment carried out by: | B. Bowen |
| Activity | What are the hazards? | Who might be harmed and how? | Likelihood of occurring(High Medium/Low) | What are you doing to control the risks? | Further Actions to control risks? | Who needs to carry out the action? | When is the action needed by? | Completed(Yes / No) |
| Mowing and chainsaw use | Noise control | Farmer/operator | High | Provide hearing protection | No | Owner/ operator | Continual | yes |
| Chainsaw Use | Possible cuts | Farmer/operator | High | Wear chaps, gloves | No | Owner/operator | During brush control | Yes |
|  |  |  |  |  |  |  |  |  |
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**Financial**

**Please describe your general financial plan. This does not need to include figures, but rather a description of the holding’s objectives.**

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| --- |
| As a small farm operation, they have been fortunately able to maintain a positive cash flow. It means that the farm is generating more money than it is spending, allowing it to cover input cost, invest in growth and potentially save for the future. The farm operators continue to monitor and manage the cash flow effectively to ensure the financial health of the farm remains strong. This includes keeping track of income and expenses, identifying areas where costs can be reduced, or revenue increased and planning for future needs.  |

**----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------Annual Plan Review:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Review Date** | **Changes Made** **(please highlight in the body of the plan)** | **Completed By**  | **Signature** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |