



◊ North Carolina Wildlife Resources Commission ◊

Cameron Ingram, Executive Director

**Town of Davidson
Fisher Farm Tract
Site Visit Follow-up**

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NC Wildlife Resources Commission
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It was a pleasure to visit the Fisher Farm property on February 11th, 2022. The group of folks that attended our site visit offer various interests, points of view and ideas about “rewilding” portions of this tract. Each of these viewpoints has value in this process and additional conversations will be required to develop a plan that fosters public support from ecologic, esthetic and financial standpoints. As this discussion proceeds keep in mind that this process is “not an all or nothing” decision, and multiple approaches can be taken on this tract to evaluate responses and outcomes. It is critical to remember that managing this property for plant diversity will not be a simple or quick process. Maintaining early succession vegetation is an ongoing process which will require periodic disturbance to keep the selected areas from transitioning to a forest or being overtaken by non-native species.

The following items are methods which may be considered and discussed as plans are made. Some methods will be a better fit for certain areas of the property than others. The Xerces Society organic site preparation booklet provides clear and accurate information which should be reviewed when selecting organic site prep methods. As more specific decisions are made more specific prescriptions can be provided if desired. As questions arise, I will be glad to continue to be a source for guidance and assist however I can.

Heavy Tillage / “Soil Inversion”: Using heavy tillage to control undesirable introduced species may be an option in certain situations. This will require a moldboard or turning plow. Care must be taken to implement this practice only on appropriate slopes and along the contour. Practice layout and use of cover crops must be taken into account to address erosion concern. The area plowed will likely need to be smoothed with a disk to break up large clumps of soil. Once smoothed broadcast a cover crop which is appropriate for season. In the fall rye grain (NOT RYE GRASS), wheat or triticale can be sown to stabilize soil. In the spring and summer brown top millet is a good option for a quick establishing cover. As the cover crop establishes the area should be evaluated to identify weeds that may be problematic in the future. If weeds are identified the area should be plowed, smoothed and a cover crop sown again before the weeds mature and set seed.

Once limited weed competition is found to be germinating the area can be allowed to colonize with volunteer species, or native seed can be planted here. Species which should be considered to plant here include little bluestem, yellow Indiangrass, tridens purpletop, panicum anceps, spotted bee balm, swamp sunflower, bidens tickseed, butterfly milkweed, common milkweed, sensitive pea, black-eyed Susan, dogbane and beggar's lice. Seeds for these species can be purchased, or hand collected locally. These species should be broadcast and pressed into the soil with a light cover crop in the fall or early spring.

Repeated Shallow Tillage: Much like heavy tillage, lighter soil disturbance may provide some weed control when implemented repeatedly. A disk or rototiller can be used to implement this preparation method. Erosion control must be considered when selecting areas to implement this practice. Expect some increase in weed pressure in the beginning of this process as weed seeds are exposed. Cover crops will be needed between tillage events. The area should be scouted to determine weed pressure and schedule the next tillage event before weeds mature and set seed.

Once limited weed competition is found to be germinating the area can be allowed to colonize with volunteer species, or native seed can be planted here. Species which should be considered to plant here include little bluestem, yellow Indiangrass, tridens purpletop, panicum anceps, spotted bee balm, swamp sunflower, bidens tickseed, butterfly milkweed, common milkweed, sensitive pea, black-eyed Susan, dogbane and beggar's lice. Seeds for these species can be purchased, or hand collected locally. These species should be broadcast and pressed into the soil with a light cover crop in the fall or early spring.

Smother Crops: This method may prove to be difficult to implement as a standalone site preparation technique in these fields. Well established weeds and heavy weed load in seed bank, as well as low soil fertility will limit the vigor and viability of the smother crop. This method may be better incorporated late in site preparation regimes where tillage is the primary weed control strategy. Rye grain can be used as a cool season smother crop and will add organic matter on sites which have been heavily tilled. Buckwheat can be used as a warm season smother crop. Soil samples should be taken and soil amended as recommended to get suitable growth of the smother crop. Where smother crops are utilized, they should be terminated with a roller crimper or mower to preserve thatch on soil surface. A roller crimper is most desirable.

Once the smother crop is terminated a no-till drill can be used to plant a more desirable native plant community including: little bluestem, yellow Indiangrass, tridens purpletop, panicum anceps, spotted bee balm, swamp sunflower, bidens tickseed, butterfly milkweed, common milkweed, sensitive pea, black-eyed Susan, dogbane and beggar's lice. Seeds for these species can be purchased, or hand collected locally.

Solarization: There was some concern about the impact that deer will have on the plastic required for solarization. If this is a desired option to try as part of this project, there may be options for simple exclusion structures which could be used on a trial basis. Due to the compacted nature of the open fields at this site it may be best if some tillage occurs prior to solarization to both expose weed seed and reduce soil compaction a bit. One option would be late summer tillage to loosen soil, fall cover crop

including daikon tillage radish to improve soil structure, spring mow to terminate cover crop, solarize area throughout the summer to reduce weed pressure, no till drill native seed mix in the solarized area. Other option would be two years of solarization prior to planting.

Herbicide to Fallow: Herbicide can be applied to control undesirable plant species and release the fallow seed bank. This may be a challenge on this tract, as there are several species of both cool season and warm season weeds growing here. A cool season treatment will control fescue which is problematic in some areas, but will not impact warm season species such as Bermudagrass, sericea lespedeza and Johnsongrass. A warm season treatment will kill these species but will spare few desirable species. Also, sericea can persist for a long period of time in the seed bank and will likely be released by these treatments.

Herbicide to Natives: Multiple herbicide applications will be needed to kill the current population of undesirable herbaceous species and the control weeds that may germinate from the seed bank. These repeated treatments will impact the seed bank warranting replanting of desirable species. To limit herbicide application this treatment may be incorporated alongside a tillage regime with herbicide used as a “final clean-up” of a site prior to planting. Either an initial tillage or mechanical sub-soiling will be beneficial to reduce compaction. During tillage and herbicide application treatments cover crops should be utilized to prevent erosion and maintain soil biology.

Once the undesirable species are under control a no-till drill can be used to plant a more desirable native plant community including: little bluestem, yellow Indiangrass, tridens purpletop, panicum anceps, spotted bee balm, swamp sunflower, bidens tickseed, butterfly milkweed, common milkweed, sensitive pea, black-eyed Susan, dogbane and beggar’s lice. Seeds for these species can be purchased, or hand collected locally.

Small Scale Plantings: To get the ball rolling and build interest in the larger project small native “gardens” can be planted in strategic locations along the greenway. Small scale projects allow for intensive site preparation and weed control with a more manageable amount of work. Initial tillage, soil amendment, potted plant materials, weed barrier, watering and mulching should all be incorporated into these projects to ensure they are successful and attractive to build public support for the larger scale project. Small scale projects allow for a diverse number of plants to be established, including those that do not establish well by seed. Signage can be beneficial to educate the public to the importance of natives plants and pollinators.

It may be possible to partner with a local Cooperative Extension Master Gardeners program or a high school horticulture class to get plants grown for these plantings. While most desirable plants can be purchased commercially, partnering with either of these groups will expand the knowledge of native plants and their benefit in landscaping projects.

Continual Follow-up: “Nothing Succeeds Like Succession”. This statement explains one of the big challenges with maintaining early succession vegetation. Trees and shrubs are constantly trying to colonize early succession areas. It takes a lot of effort to keep these woody species at bay over time. Likewise, we are faced with many species of non-native herbaceous species that can spread

aggressively, diminishing the benefit of our restoration efforts. To quickly control these invasions, we must stay ever vigilant and strike quickly to catch these undesirables before they become well established.

Periodic disturbance will be required favor herbaceous species and further control undesirable woody species. Mowing, disking or burning are typically used on larger scale projects. Even with this periodic disturbance additional weed control will be needed through mechanical or chemical means. Shovels, hoes, weed wrenches or targeted herbicide applications are all options to address these problematic plants.

Native Shrub Establishment: Like small scale plantings establishing native shrubs and small trees may be an option to consider in the near-term. Shrubs will require less site preparation to establish than herbaceous species, since there are more weed control options after planting. The benefit of shrubs is often overlooked, but adding shrub diversity can enhance nectar, host plant and soft mast availability.

Species of similar growth habits should be planted in clusters to improve establishment success and add “thickety” structure. Weedy growth should be controlled with weed mat, mulching and cutting back until shrubs are well established. Fencing or other exclusion structure will be needed to limit deer browsing on young shrubs. Extra care will be needed to water the shrubs during droughty periods for the first couple years after planting.

The above recommendations provide options to “rewild” the Fisher Farm property. There are many options and levels of management which can enhance plant diversity and habitat quality. Each of these options have benefits and challenges to be considered as decisions are made for the tract. This is not meant to provide extremely detailed options, but rather more general options that could be implemented on the property. Since several of these options depend on response of the seed bank there may be the need to modify plans “mid-stream” to address unexpected responses. More details can be provided as management decisions are made or questions arise. Care should be taken to ensure that plans meet the town’s objectives and limitations during both the establishment and maintenance periods. Volunteers that pledge support to the project should understand this project is not a sprint, but a marathon. Please feel free to contact me if I can be of any assistance moving forward. John Isenhour, 704-213-4825, john.isenhour@ncwildlife.org.