



Memo

To: Open Space Advisory Committee
From: Joseph Kelso, Natural Resource Management AmeriCorps Intern
cc: Lyndsey Boyer, Senior Natural Resource Specialist
Date: August 3, 2018
Re: Summer Project Report

Introduction to Self and Background

- I am currently going into my junior year at Appalachian State in North Carolina intending to major in sustainable development with a concentration in agro-ecology.
- Previously have interned in the Historic Gardens of Monticello in Virginia the previous summer.
- My major goal is to create a sustainable environment around agricultural practices by working with local farms and local agriculture using methods that are non-detrimental to the surrounding plant life and ecosystem.
- I embrace public work and have appreciated the new directions this internship has given me when it comes to career choice in the future as well as just practices that can be taken to the east that aren't as common that could positively affect not only specific ecosystems but the environment as a whole.

Russian Olive Mapping and Removal Management Plan

- The plan was initially begun within my first few weeks of working the plan was to eliminate the Russian Olive trees from riparian areas as they can be detrimental to stability and therefore lessen the proper functioning condition of the riparian zone.
- Russian Olive trees (*Elaeagnus angustifolia*), despite not being classified as noxious, have invaded riparian zones in the desert regions of the Southwest United States and hurt genetic diversity.
- The overall project goal is to eliminate Russian Olive infestations along the Carson River and other riparian zones within Open Space.
- In the beginning of my term I also attended a Proper Functioning Condition (PFC) riparian course that helped to evaluate the conditions of the Carson River which helped a lot in the scope of the Russian Olive Project.
- After determining what areas to map with the other Open Space staff I began using GAIA GPS, mapping software which uses KML files to show a detailed map of areas walked along with pictures of Russian Olive trees along the way.
- The Foliar method can be used on seedlings, saplings, and mature trees that are less than 6 feet in height. The viability of this method is primarily dependent on density and access to the trees being sprayed.
- Adding blue indicator dye is recommended as it will show the spray area being

established.

- The basal bark treatment is most effective on Russian Olive Trees with stems with a diameter of 5 inches or less. Apply a solution of 25 to 50 percent triclopyr combined with carrier oil using a low volume, hand-held sprayer fitted with an adjustable nozzle (X0 to X1 orifice sizes) to deliver a mist spray. This can be done most times in the year but is best used during the winter when surrounding foliage is not present so as to not harm them.
- Treatment as suggested above should be conducted in the winter with regular follow ups to check on progression of trees.
- No administering of project has been done yet other than mapping. The mapping proved the need for removal as there was quite a bit of infestation. This is an ongoing project and more results will be reported in the future. The KML file has a total of over 500 pictures as of now and more map data needs to be added.
- Treatment will begin after I have finished my term, however a research plan will be the best reference when it comes to treatment options that I have drawn up including the levels of infestation in certain parks and open space areas, and how these levels relate to the priority of treatment. (i.e. the larger, more accessible, or mature the infestation the higher priority the treatment is).

Trail Survey Project:

- For the Trail surveys parking numbers and activity of trails needed to be documented to see if larger parking or better maintenance were needed for specific trails.
- Using guidelines from multiple government agencies on trail questionnaires to develop questions that will cover the information we need.
- The surveys will also be administered at different time periods to get an accurate sample group.
- The three times allotted for the survey are from 9am-6pm and will have proportional time tables. Each person leaving the trail will be asked questions and counted.
- In addition links to the survey were posted with QR codes to access them on SurveyMonkey™ at most Open Space trail heads.
- The link was also shared through Parks and Recreation and Open Spaces Facebook page.
- Any non-digital surveys that I collect were immediately entered into the online survey as to get a complete analysis of the data.
- Using the sorting and analysis tools provided by SurveyMonkey™ as well as data-analytics software like R-studio to get comprehensive analysis of the data using measures such as P-value for each trail as well as other statistical analysis values to measure each trail individually.
- This project is still being completed and we are currently at 35 people responding and within the next few weeks before the end of the term I plan to try to at least double the responses as it is currently a little low to have reliable analysis of the data.

Additional Projects Assisted with During Term:

- I have been working with both Jared and Marena on average at least once a week each and assisted with their various projects.
- With Jared we accomplished graffiti removal from the waterfall trail as well as normal maintenance of Open Space areas like illegal campfire dispersals and collection of litter within the areas.
- In addition I assisted Jared in organization and building up of the Open Space workshop at Silver Saddle Ranch that needed an overhaul as it was being used more for storage than as a functional workshop which is very much needed within the Open Space division of

Parks and Recreation.

- I assisted Marenda in all types of noxious weed removal ranging from thistle digs to removal of poison hemlock.
- In addition I lead hikes such as the tot-trek and paint-a-park multiple times during the term using my experience in environmental education to help people enjoy these community events.