

Invasive Management at Tankerhoosen Wildlife Management Area



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ABSTRACT

My community project was located in the Tankerhoosen Wildlife Management Area near Walker Reservoir in Vernon, CT. The goal was to identify, map, and remove the invasive plant species there. I used a GPS unit and ArcGIS online for mapping, and I used manual methods, including shovels and weed wrenches for removing invasives. I mapped over 350 instances of invasive species, removed around 30 manually, and created a brush pile with the limbs of other invasives removed by chainsaw.

Managing invasives is vital to the preservation of local ecosystems. Invasives crowd out local flora and are not beneficial to the local fauna. If unmanaged invasives can quickly take over an area and disrupt the natural system.

Throughout my project I identified many autumn olive plants and removed several of them. By doing this I helped to monitor the extent of the invasion as well as to prevent the spread of the plants in the future in this area.

INTRODUCTION

Walker Reservoir is a small, partially wooded area through which a short trail runs. This expanse was recently acquired by CT DEEP and included in the nearby Belding Wildlife Management Area. It is now under the management of Jane Seymour (CT DEEP) whom I worked under. Throughout this area there is a high concentration of invasive plants, namely autumn olive.

Autumn olive (*Elaeagnus umbellata*) is a deciduous shrub or small tree from Asia that was introduced as a form of erosion control as well as for ornamental purposes. The danger it poses to the natural ecosystem stems from its ability to fix nitrogen in its roots and thus spread competitively, crowding out native plants. In addition autumn olive only provides a source of food to birds in the fall (via berries) but the rest of the time is unusable as a food source to native bird, rodent and insect species. Since insects like caterpillars have not evolved with this plant they cannot digest it. The decrease in insect population and diversity in turn affects the many other species that eat insects.



Autumn Olive is most easily distinguished by its leaves (pictured above) which have a silvery underside and by its fruit which is yellow when unripe and red when ripe (pictured below).



Autumn Olive can be removed by mechanical means such as weeding, but the tap root must be removed as well to ensure that it does not grow back. In addition this plant can be removed by cutting it down to a stump and then applying herbicide to it. This method is most effective in the fall before the leaves begin to drop.

MATERIALS AND METHODS

To manage the invasives I first went out and walked along the trail with my GPS. Anytime I identified an invasive plant or plant cluster I made a waypoint. After collecting the data I then uploaded the waypoints and tracks from the GPS to my computer. From there I used a website called ArcGIS.com to compose the data into a map.

To begin I started out with a base map of the area, which was a satellite image of the Walker Reservoir Area obtained from the ArcGIS database. I then uploaded my waypoint and track data off of my computer and superimposed it over the base map, using ArcGIS to create and edit the symbols to indicate different invasive sightings as well as my trail. From there I renamed waypoints to more clearly indicate what number and what species of invasives was at that point as well as configure a pop up that would come up with data on the waypoint when the point was clicked. Green circles indicate autumn olive, pink circles indicate multi-floral rose, and a green line enclosed by two flags signifies an extremely large and heavy concentration of autumn olive.



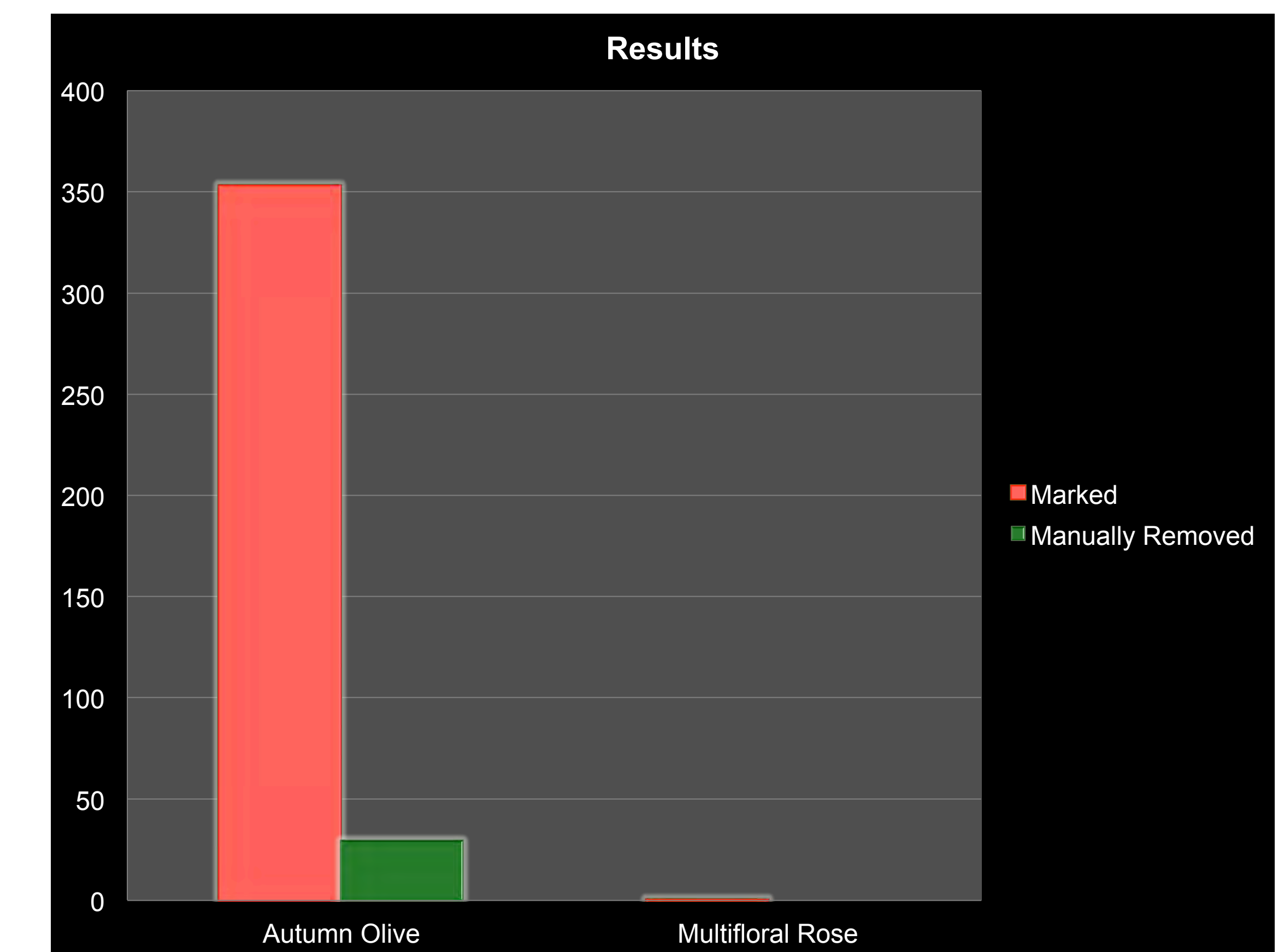
After having identified and marked the invasives I then went back and removed some of them. I used shovels as well as a weed wrench to remove the plants, making sure to get the tap roots of the autumn olive to ensure the plant would not grow back.

These pulled plants I then dragged into a brush pile. For limbs of autumn olives too large to remove with a wrench or shovel, we cut them with a chainsaw, sprayed the stump with herbicide to prevent re-growth, and dragged the limbs into the brush pile.

RESULTS

In total, I marked:
around **353** instances of autumn olive, many of which were mature enough to bear fruit and **1** instance of multi-flora rose.

I also removed:
around **30** autumn olives manually and moved the limbs of many more to the brush pile.



CONCLUSIONS

In conclusion, the Walker Reservoir Area has a very high concentration of the invasive species autumn olive. Autumn olive is an aggressive plant that has come to cover a large portion of the area. Without proper management this species could further take over the area and push out more beneficial native plants. Thus it is important to keep track and monitor the number of plants as well as to remove them as soon as possible. Mapping the places where invasives are found using a GPS is a good way to get an idea of the extent of the invasive problem. In addition invasives such as autumn olive need to be removed via mechanical means or a combination of cutting and herbicide application in order to prevent their spread.

It is important that we try to stop invasives from spreading and monopolizing native ecosystems. They fill the niches of native plants and do not provide as good a food source to animals as native plants. Without human intervention like the kind mentioned here, these plants could easily destroy the vital ecosystems we already have.

REFERENCES

"Autumn Olive." *Autumn-olive, Elaeagnus Umbellata (Rhamnales: Elaeagnaceae)*. N.p., 04 May 2010. Web. 31 Jan. 2013.

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