



Bitterroot Wildlife Internship 2014 Field Note

First Session: June 23rd - July 14th
Second Session: July 25th - August 21st

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The Bitterroot Wildlife Internship (BWI) partners MPG Ranch and Ecology Project International (EPI). The program provides educational and field experience to the next generation of conservationists. BWI served 12 students over the course of 8 weeks. Students worked alongside MPG scientists as interns and contributed to ongoing research projects. Students also contributed to field work and received academic instruction from their field staff. Overall, BWI interns contributed 863.5 work hours to ranch projects.



BWI projects included: sagebrush thinning, fence removal, houndstongue pulling, biocontrol collection, native seed collection, fence conversion, academic study, and research.



Houndstongue Removal

Invasive species, like houndstongue (*Cynoglossum officinale*), can outcompete native species and negatively impact biodiversity. BWI interns removed these plants to allow native species to recover. Students targeted areas where houndstongue removal occurred in previous years to maximize the effectiveness of their efforts.





The BWI interns cleared 0.52 miles of houndstongue along the roads near Baldy summit (indicated by the blue lines above). They also removed 1.7 acres of houndstongue from the top of the Tongue Creek drainage (indicated by the blue polygon below).

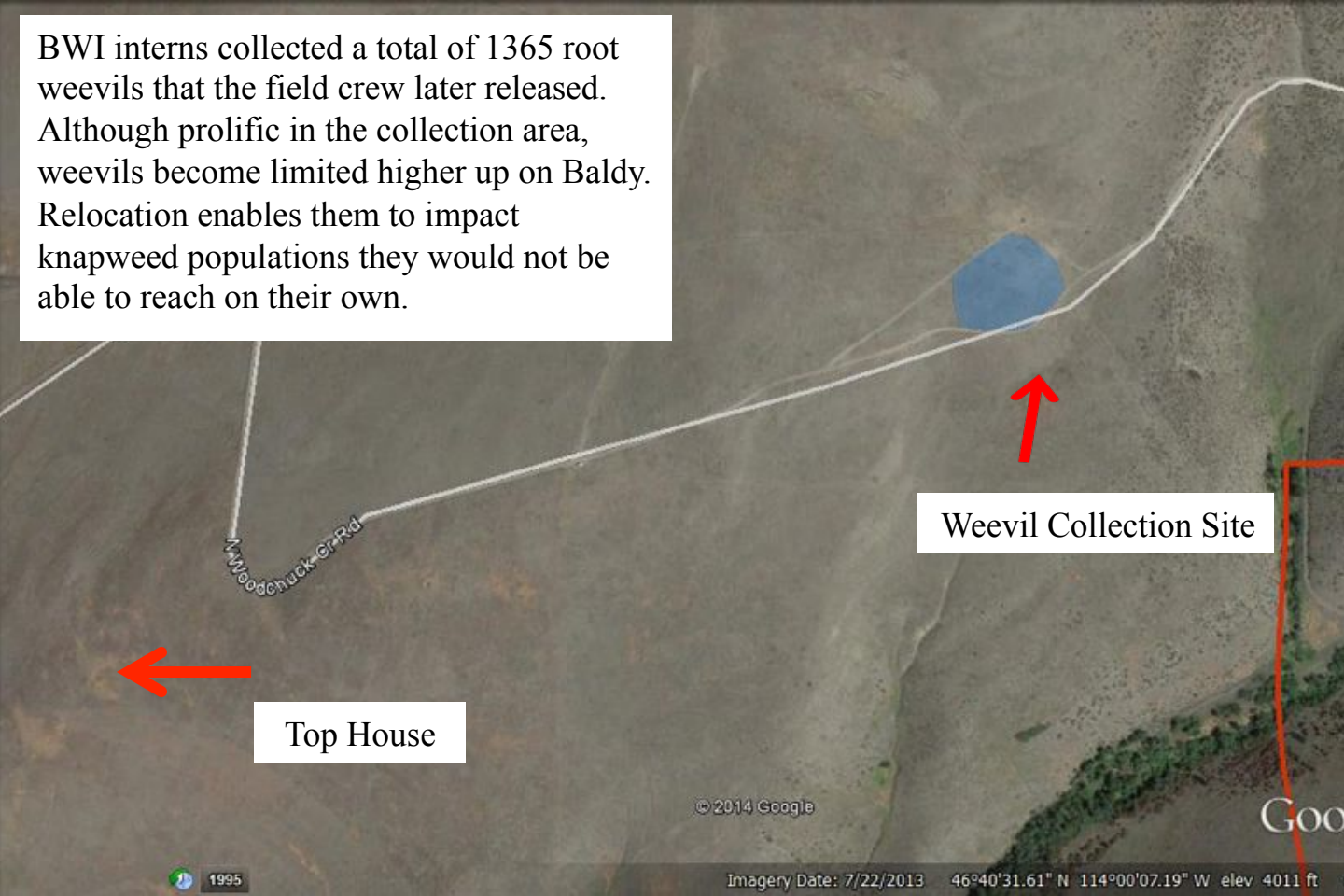


Bio-control Work – Weevil Collection



The knapweed root weevil (*Cyphocleonus achates*), a form of bio-control, combats spotted knapweed (*Centaurea stoebe*). The adult weevils lay their eggs in the root and the larvae then eat the roots, which weakens the competitiveness of the plant.

BWI interns collected a total of 1365 root weevils that the field crew later released. Although prolific in the collection area, weevils become limited higher up on Baldy. Relocation enables them to impact knapweed populations they would not be able to reach on their own.



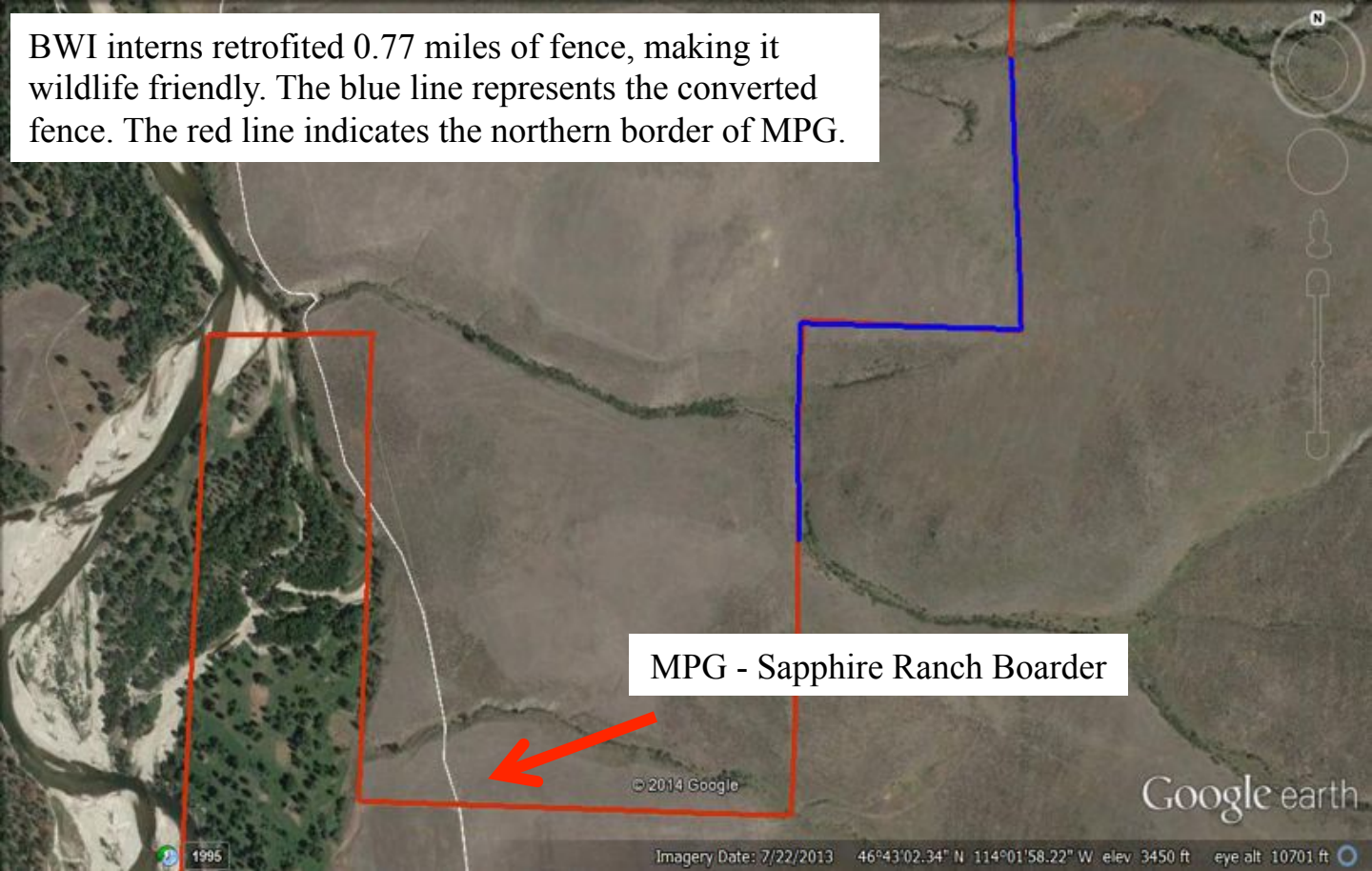
Wildlife Friendly Fence Conversion



Barbed wire fence inhibits wildlife movement and can injure animals. Interns removed the bottom sheep fence and replaced the top and bottom barbed wires with smooth strand. The top and bottom strands can be moved to the center when cattle are not present. This type of fence retrofit keeps cattle in place, and allows safe passage for wildlife.



BWI interns retrofitted 0.77 miles of fence, making it wildlife friendly. The blue line represents the converted fence. The red line indicates the northern border of MPG.



MPG - Sapphire Ranch Boarder

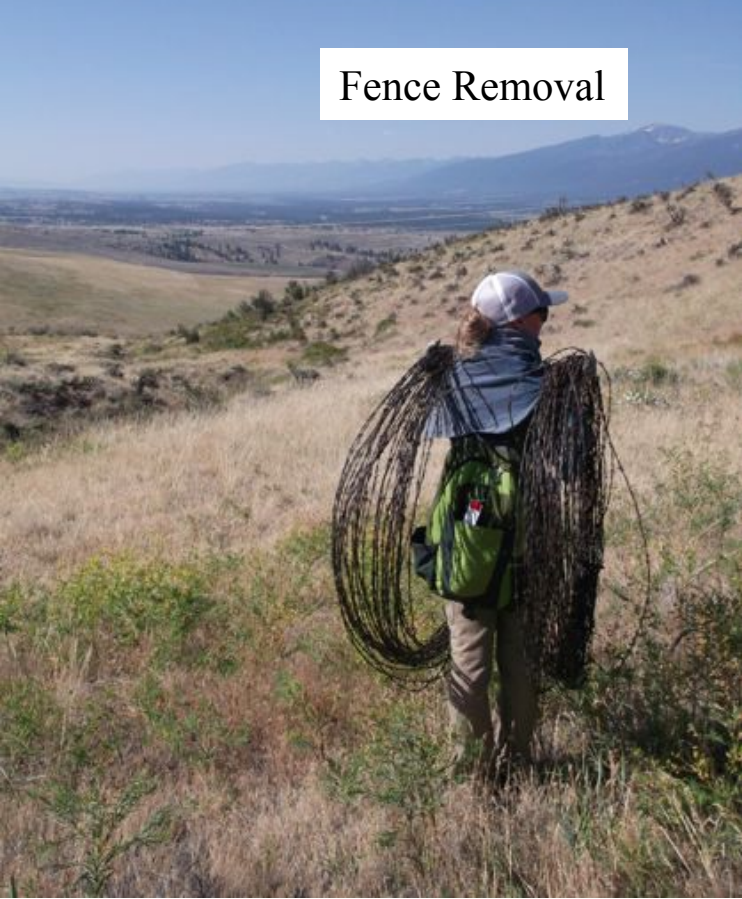


Preexisting Fence



Wildlife Friendly Fence

Fence Removal



BWI crews removed old fence and barbed wire from MPG. Fence removal opens the land and allows free movement of wildlife.





Before



After





Wirespool Area



Interns removed just over a mile of fence
in the heart of elk wintering range.



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Imagery Date: 7/22/2013

46°41'

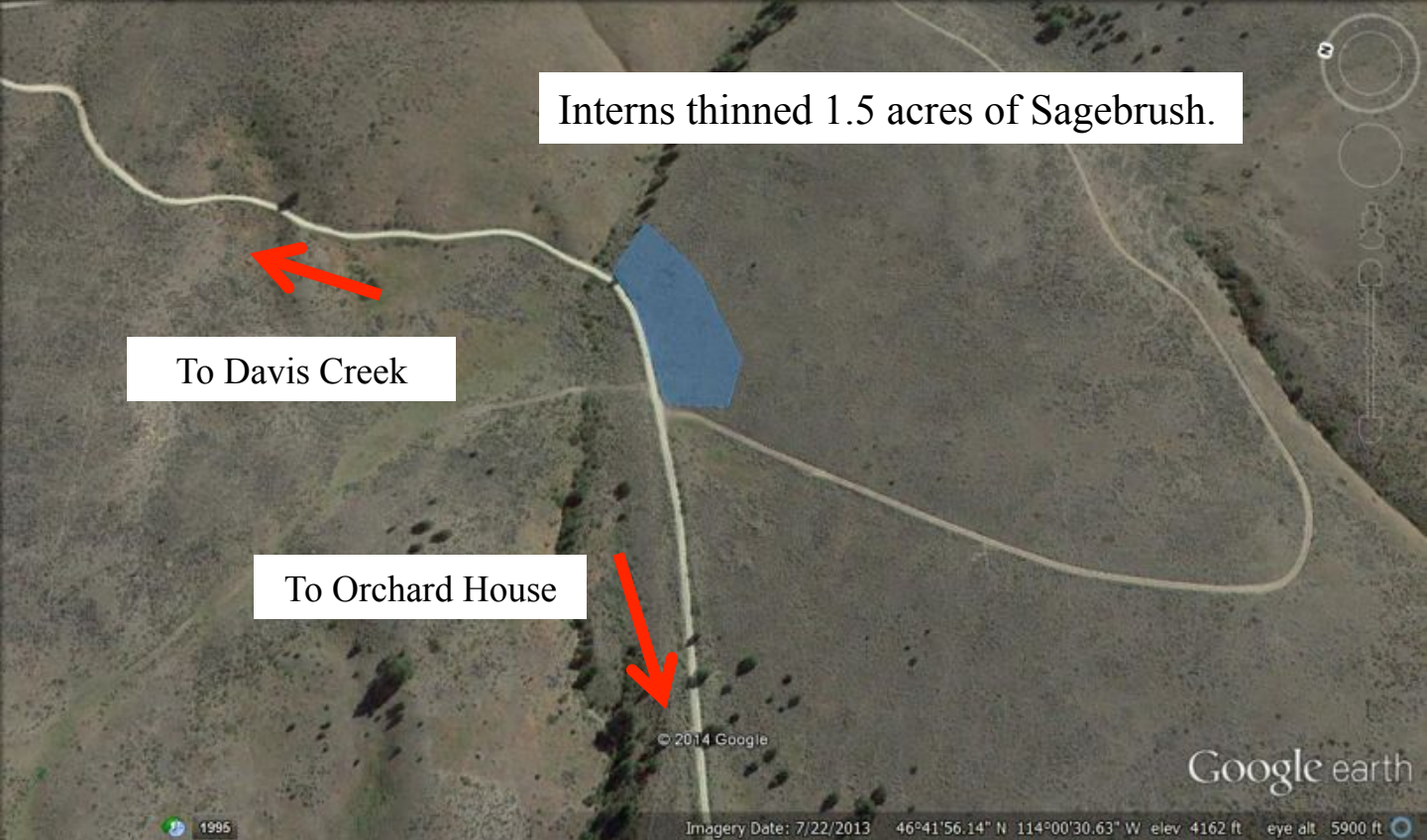
Sage Thinning

Though big sagebrush (*Artemisia tridentata*) is a native species in Montana, it can create a closed canopy system in areas heavily grazed by cattle. This monoculture prevents more desirable forbs from establishing and suppresses biodiversity. The BWI interns manually thinned big sagebrush, opening the area for native forbs and grasses to re-establish.



Open Sage Canopy

Closed Sage Canopy



Native Seed Collection



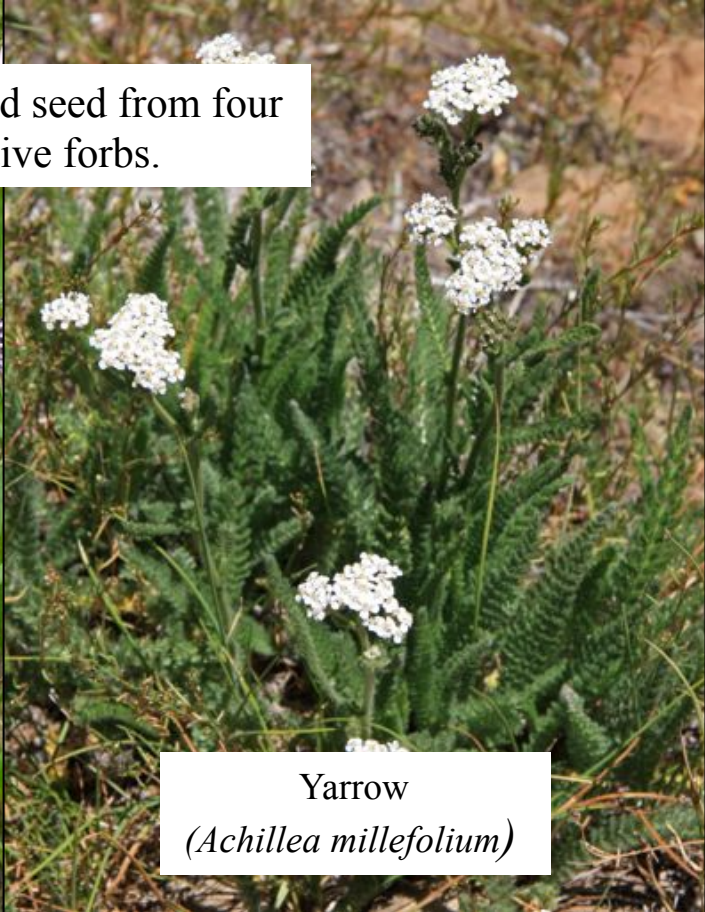
Seed Collection On Mt Baldy

Interns collected seed from areas with high native diversity, like on the summit of Baldy. MPG will store the seed and use it for later projects.

BWI interns collected seed from four species of native forbs.



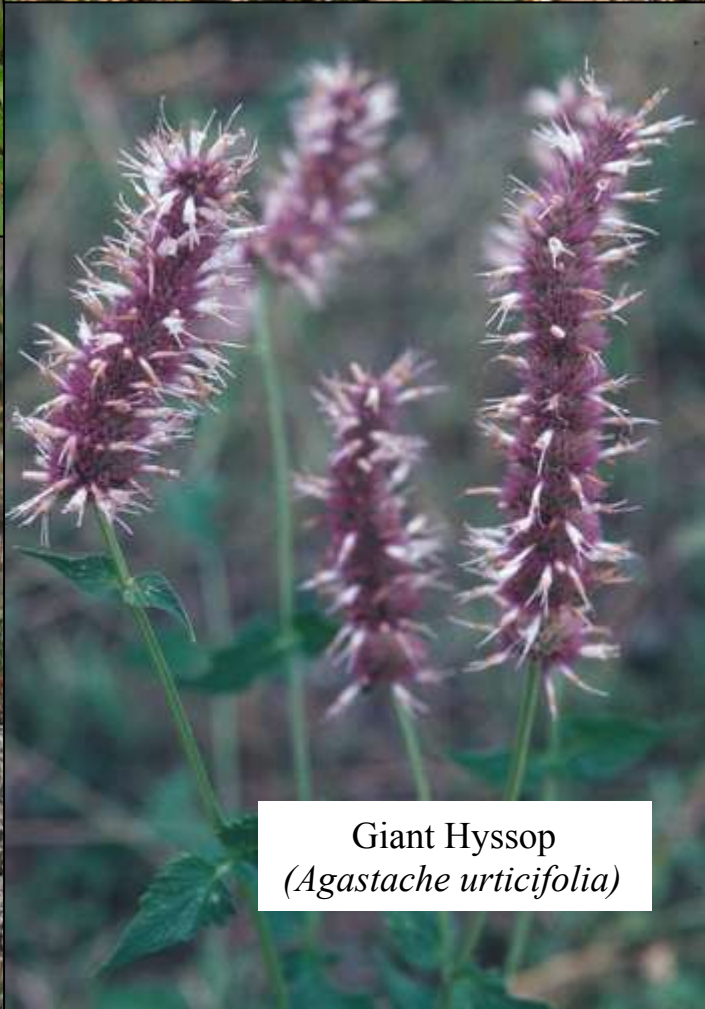
Alpine Fleabane
(*Erigeron speciosus*)



Yarrow
(*Achillea millefolium*)



Biscuitroot
(*Lomatium ambiguum*)

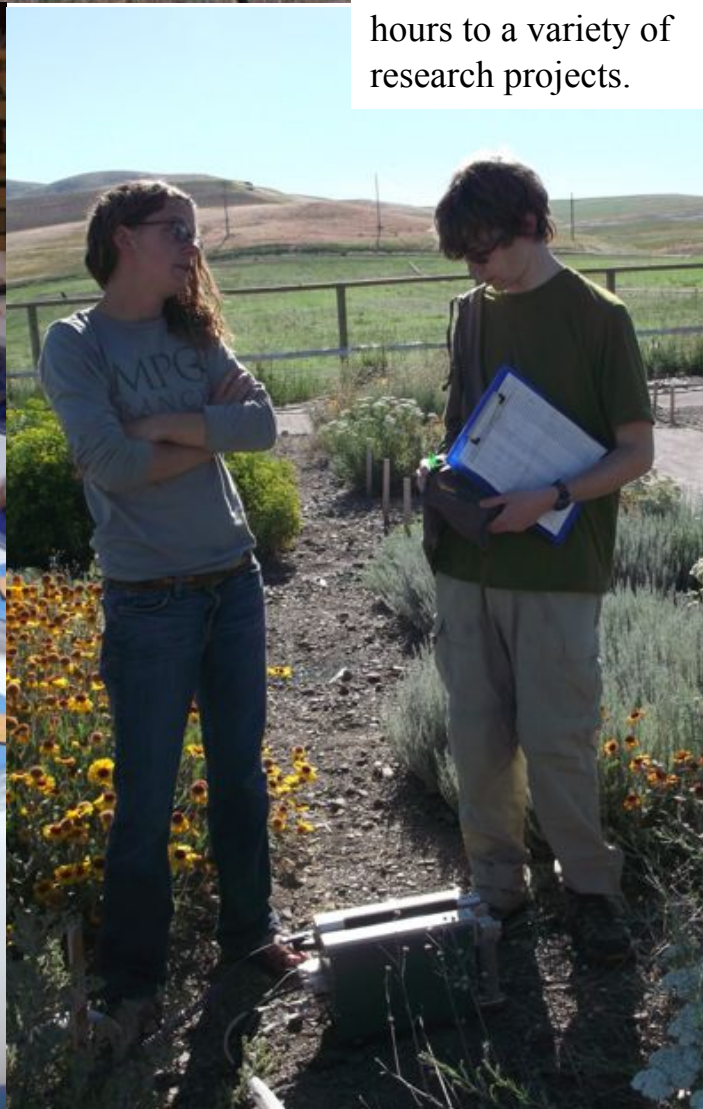


Giant Hyssop
(*Agastache urticifolia*)

Research



BWI interns gained valuable research experience over the course of the summer. They worked alongside MPG staff and contributed 291 hours to a variety of research projects.



Project Totals



Over a period of 32 field days, 11 interns and 2 EPI instructors contributed the following hours of service and research to MPG Ranch:



Sagebrush Thinning: **46 hours**

Fence Removal: **181 hours**

Houndstongue Pulling: **203 hours**

Biocontrol Collection: **28 hours**

Native Seed Collection: **21 hours**

Fence Conversion: **93.5 hours**

Research: **291 hours**

Total Hours: 863.5