



## Restoration of Eastern Native Grasslands And The Repatriation Of The Regal Fritillary Butterfly

08-392

### Background:

The largest population of the rare grassland butterfly, the regal fritillary (*Speyeria idalia*), in the eastern U.S. occurs at Fort Indiantown Gap (FIG), PA. The only other eastern population is at Radford Army Ammunition Plant (RAAP), VA. Survival at FIG is dependent on military training disturbances that maintain early successional plant communities and support vegetation essential to survival. These elements include: violets for larvae, nectar sources for adults, and warm season bunch grasses for protection and cover.



A female regal fritillary butterfly at Fort Indiantown Gap.

Due to the rare status (ESA Candidate II), the PA National Guard agreed in 1998 to prohibit training on 219 acres of prime training lands to research the habitat requirements of this butterfly and to stave off increased regulations or ESA formal listing. A repatriation (return of a native species to its former range) project was proposed to aid in species recovery and to reduce training encroachment at FIG.

### Objective:

The primary goal is to ensure eastern population stability and to ease operational restrictions at FIG, RAAP, and other DoD sites with regals. Related goals are to develop grassland restoration and rare species management techniques and plans for DoD-wide use. Project focus is on restoring habitat at sites with a historical regal historical occurrence. This venture involves numerous partners utilizing Legacy and partner funding with the overall goal of reducing the responsibility of the military for the sole conservation burden of the regal in the East.



### Summary of Approach:

A three-phased approach over a 5-year period (2008-2012) is being used for this project. This involves: 1) Identification and assessment of potential grasslands, 2) grassland restoration and monitoring and 3) regal repatriation. Habitat restoration includes herbiciding, mowing, disturbing soil, collecting local ecotype native seed, and planting plant plugs grown from collected seed. Repatriation will require the use of captive reared butterflies and wild females that will be translocated once a site is adequately restored.



NPS mowing next to vegetation treatment plots at GNMP.

### Benefit:

Quality and quantity of grasslands will be improved and historical regal fritillary locations will be repatriated. Restrictions on operations and training will be eased and protected areas can be used once again. Lessons learned can be applied DoD-wide on grassland restoration, rare species management, and pollinator conservation.

### Accomplishments:

So far, 4 PA state parks and 2 national parks are partnered in this project. PA-state parks include Swatara, Memorial Lake, Bald Eagle State, and Boyd Parks. National parks include Gettysburg National Military Park and Valley Forge National Historical Park. Lehigh Gap Nature Center, PA and the Albany Pine Bush Reserve, NY have agreed to repatriate regals using their sources of funding. Management plans developed have been shared with RAAP, Letterkenny Army Depot, PA, and other military sites.

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