



Plant and Pollinator Management in the Department of Defense

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DoD Perspective: The Prime Directive

Acquisition, Technology and Logistics

Support the Mission

- Installations are critical components of our ability to fight and win wars. Whether that installation is a forward operating location or a training center in the United States, our warfighters cannot do their job without bases from which to fight, on which to train, or in which to live when they are not deployed. The bottom line is that installations support our military readiness.

Protect Quality of Life

- Quality of life – to include not only the physical condition of the facilities in which our servicemen and servicewomen and their families live and work, but whether or not there is a safe, healthy environment around and within those facilities – is critical to the readiness of the force.

Promote Efficiency/Reduce Cost

- The more we do to drive efficiency and lower our costs, the more pressure we take off of critical warfighting accounts and the more we contribute, again, to the military readiness of the Department.





The Big Picture: NR Program Responsibility

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- DoD is responsible for managing ~25 million acres of land and hundreds of square miles of air and sea space
- These lands contain >400 federally-listed species and over 500 species at-risk
- DoD is the 5th largest land managing agency, but harbors more sensitive species per acre than any other federal land managing agency





DoD Natural Resources Supports the Military Mission

Acquisition, Technology and Logistics

- Diverse native plant communities are more resilient to impacts from both training activities and naturally occurring stressors
- Protecting federally-listed and at-risk species meets stewardship responsibilities and compliance obligations
- Healthy landscapes help maintain flexibility of DoD test and training lands
- Quality of life enhanced for military and their families





DoD Programs

Acquisition, Technology and Logistics

- DoD Natural Resources Program
 - Policy, Oversight, Advocacy
 - DoDNaturalResources.net
- DoD Legacy Resource Management Program
 - Funding arm for DoD NR Program
 - has awarded over \$2 million across more than 35 pollinator-related projects
- Armed Forces Pest Management Board (AFPMB)
 - Natural Resources Committee
 - www.afpmb.org





Native Plant Management on DoD Lands





Relevant Policy Statements

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- DoDI 4715.03, *Natural Resources Conservation Program*
- Maintain a relevant and updated baseline list of plant and animal species located at each installation for all pertinent taxonomic and regionally important groups
- Environmentally and economically beneficial landscaping practices shall be used on all DoD lands.
- Each installation shall, to the extent practicable, conserve and protect water resources, use locally adapted native plants, avoid using invasive species, and minimize the use of pesticides and supplemental watering.





Recent Plant-related Projects

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- Characterizing Mojave Desert Shrub Ecotypes to Establish Seed Transfer Zones for Military Range Restoration (FY16)
- Developing a Cost-Effective Framework for Monitoring Keystone Indicator Tree Species in Hawaii using Satellite Imagery (FY15)
- Leveraging Land Condition Trend Analysis Data to Understand Vegetative Change (FY13-15)
- Seed Banking using Federally-listed Mainland Plant Species (FY10-12)





Earlier Plant-related Projects

Acquisition, Technology and Logistics

- Establishing a series of permanent seed-source nursery beds to restore South Puget prairies (FY07-10)
- Establishing American Chestnut test orchards on two TNARNG installations (FY08)
- Restoration of native warm season grasses to improve migratory bird habitat (FY07)
- Conservation status/priorities for pitcher plant bogs (FY00, FY02, FY04)
- <http://www.denix.osd.mil/nr/>





Key Plant Partnerships

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- Center for Plant Conservation
 - HI Training Workshop
 - Listed plant species evaluation
- National Environmental Education Foundation
 - National Public Lands Day





A Few Installation Examples





Army Garrison Hawaii Propagation

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- 8 military training areas with >100 listed plants
- 3 greenhouses: mid elevation shared with HI Forestry and Wildlife), low elevation greenhouse on Oahu and high elevation greenhouse at Pohakuloa
 - >2000 plants grown and out-planted each year
 - Staff collects thousands of seeds
- Among the species saved by Army efforts
 - *Cyanea superba* (haha)
 - *Phyllostegia kaalaensis*





Eggert's sunflower

Acquisition, Technology and Logistics

- *Hellianthus eggertii*
- Formerly federally-listed with only 34 known sites
- Restoration efforts on 2000 AC of Barrens habitat on Arnold AFB, TN → 287 sites (73 populations)
- Recovery goal of 20 populations exceeded!
- Delisted in 2005





Pollinator Management on DoD lands





Ongoing DoD Pollinator Support: Project Funding

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- Many projects benefit the >20 threatened and endangered bats, butterflies, and beetles found on military installations
- Pollinator and Native Plant Habitat Restoration Demonstration Project
- Golf and the Environment: Southeast Region Demonstration Project
- Restoration of Eastern Native Grasslands
- Population Modeling and Habitat Conservation for the Palos Verdes Blue Butterfly





Pollinator & Native Plant Habitat Restoration

Acquisition, Technology and Logistics

- Dyess AFB, TX
- Demonstrated how habitat restoration through removal of invasive plant species and augmentation of the native floral population can result in high quality pollinator habitat, even on small patches of ground
- This project resulted in the discovery of two new pollinator species at Dyess





Golf and the Environment

Acquisition, Technology and Logistics

- Southeast Region Pilot
 - Fort Benning, GA
 - Developed scientifically sound methods for friendly golf courses on SE DoD lands

THE GREEN BOOK
Environmental Guidebook for Military Golf Courses

Military symbology for attack strategies

Center for Resource Management
Golf & the Environment Initiative

Department of Defense
Legacy Resource Management Program





Ongoing DoD Pollinator Support: Information and Outreach

Acquisition, Technology and Logistics

- Website provides information on plans, guidance, listed species, projects, and resources (fact sheets, links)
- <http://www.dodpollinators.net/>
- Support for Pollinator Partnership
 - MOU updated in February 2015

A screenshot of the "DoD Pollinator Initiatives" website. The page has a green header with the title "DoD Pollinator Initiatives" and a navigation menu with links: "DoD NR Home", "Home", "Listed Species", "NPLD Projects", "DoD Projects", "Resources", and "Contact Us". Below the header is a section titled "ABOUT POLLINATORS" with a paragraph of text explaining the importance of pollinators. The text reads: "Birds, bees, bats, and other pollinators are in significant decline across the country and around the world. Yet, nearly 80% of the world's crops require pollination, including fruits, vegetables, chocolate, and tequila. Without pollinators, there would be no tomato salads, no strawberry smoothies, no Hershey's Kisses™, and no margaritas. One out of every three mouthfuls of food we eat and beverages we drink is the result of pollinator activity. In the United States, insects pollinate crops that produce between \$20 billion and \$30 billion worth of products annually!" Below the text are several links: "NEW! Pollinator Protection Strategic Plan", "NEW! White House Pollinator Initiative", "2014 Presidential Memorandum, Fact Sheet, and Blog Post", "Why are Pollinators Important to DoD?", "What You Can Do to Help!", and "The next Pollinator Week is June 15-21, 2015." At the bottom of the page are three images: a purple butterfly, a hummingbird feeding from a pink flower, and a bee on a white flower.





DoD Policy Memorandum

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- Department of Defense Policy to Use Pollinator-Friendly Management Prescriptions (September 5, 2014)
 - DoD policy is to, when possible and to the extent practicable:
 - Use native landscaping
 - Minimize the use of pesticides in sensitive habitats
 - Coordinate with other agencies





National Public Lands Day

Acquisition, Technology and Logistics

- Coordinated by the National Environmental Education Foundation in Washington, DC
- Since 1999, the DoD Legacy Program has funded >300 NPLD projects on military installations across the country
- 2009-2015-- ~170 pollinators projects
- DoD installations can request for up to \$6,500 for project for materials, equipment, and supplies to implement NPLD efforts
- <http://publiclandsday.org>





National Public Lands Day

Acquisition, Tech

- Fort Dix, NJ (2007) – 146 volunteers
 - Repaired erosion to the lake shoreline
 - Removed 520 invasive plants
 - Repaired a foot bridge over wetlands area
 - Removed 7,100 pounds of trash
 - Erected eight bird nesting boxes
 - Planted 220 pollinator-friendly native plants
 - Installed educational signs





New Initiatives

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- Update Unified Facility Criteria on Landscape Architecture
 - Technical requirements for natural resources and facilities projects associated with site improvements and site design
 - Used by DoD contractors
- Update INRMPS to incorporate pollinator BMPs as appropriate
- Include pollinators in new DoD Natural Resources Strategic Plan



Questions?

