



# Biodiversity Outreach Tools

## Department of Defense

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**Booz Allen Hamilton**

NatureServe Conservation Conference  
"Conservation on the Move"  
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- ▶ Why is biodiversity important to the military mission?
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# Biodiversity supports the mission

“Long experience by the DoD with the management of the natural resources of its nearly 30 million acres of land has shown that the environmental health of these lands is absolutely essential for realistic and sustainable testing and training.”

*-Alex A. Beehler, former Assistant Deputy Under Secretary of Defense, Environment*



Code of conduct continuation training as part of the survival, evasion, resistance and escape program at Cannon AFB.

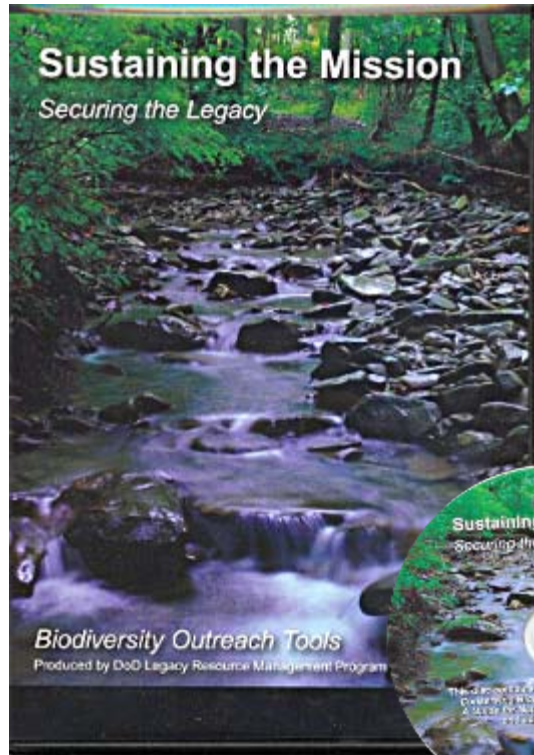


# Outreach Products

- ▶ Biodiversity Outreach Toolkit
- ▶ Invasive Species Outreach Toolkit
- ▶ Marine Corps posters: “We’re saving a few good species”



# Biodiversity Outreach Toolkit



- ▶ Information for Installation Leaders
- ▶ Beyond the Perimeter
- ▶ The Military Community

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# Invasive Species Outreach Toolkit

- ▶ Will provide:
  - Templates
  - Commander's Guide
  - Resources and funding sources
- ▶ Divided into:
  - Weeds
  - Vertebrates
  - Aquatics
  - Insects/diseases

The image displays two 'WANTED' posters for invasive species. The top poster is for the Yellow Star Thistle (*Centaurea solstitialis*), featuring a yellow flower and a 'no' symbol. The bottom poster is for Feral Hogs (*Sus scrofa*), featuring a pig with tusks and a 'no' symbol. Both posters include detailed information such as 'Escaped from Europe', 'Vital Stats' (height, weight, lifespan), 'Appearance', 'Habitat', 'Diet', and 'Control'. They also feature maps of the United States showing the species' distribution and a 'REWARD' section with contact information for reporting sightings.

**{un} WANTED**  
YELLOW STAR THISTLE *Centaurea solstitialis*

**{un} WANTED**  
FERAL HOGS *Sus scrofa*

**ESCAPED FROM**  
Europe

**VITAL STATS**  
Height: 1-2 ft  
Appearance: Yellow flowered heads with 1-2 inch spikes  
Habitat: Open fields  
Diet: Grasses, other plants  
Lifespan: 10-15 years

Dense thickets of yellow star thistle can displace native plants from the ground and out-compete native plants. In some areas, they can't be used for forage.

Fort Hunter Liggett, including mowing, is the most effective control method. As of 2005, been treated.

**CAUTION:** Yellow star thistle is a highly invasive species. It can spread rapidly and displace native plants. It is a major pest of agriculture and natural resources. It is also a major pest of wildlife and livestock.

**ESCAPED FROM**  
Europe

**VITAL STATS**  
Height: 3 ft (0.9 m)  
Weight: 150-200 lbs (70-90 kg)  
Hair: Dark gray to brown coarse bristles  
Build: Powerful body with thick neck and a big snout. Males have two tusks about 4 inches long.

Pigs were introduced to the U.S. in the 16th century, and have since spread across the continent and Hawaii. Feral pigs and hogs cause \$300 million in agricultural damage in the U.S. every year. Damage to natural systems is hard to quantify, but is significant.

Feral hogs prevent trees from growing, damage vegetation, and dig up soil, causing erosion and poor stream quality. By foraging and grubbing, they make it easier for non-native weeds to invade, which in turn damages natural systems. Feral hogs also can transmit diseases to wildlife and humans.

Controlling feral pig and hog populations is difficult and expensive. Hawaii spends approximately \$450,000 per year to control wild pig populations.

**CAUTION:** At Avon Park Air Force Base, feral hogs dig up the soil along runways, exposing insects that attract large birds creating a bird strike hazard (BSH) risk for pilots. Hogs also destroy nesting habitat for the endangered Florida grasshopper sparrow and compete with the endangered Florida scrub jay for acorns.

Click to see translation POC information to include mailing addresses, phone numbers, and Web sites (NADAD)

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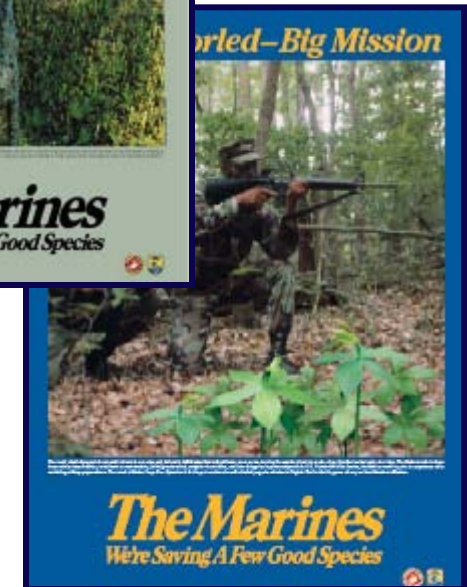
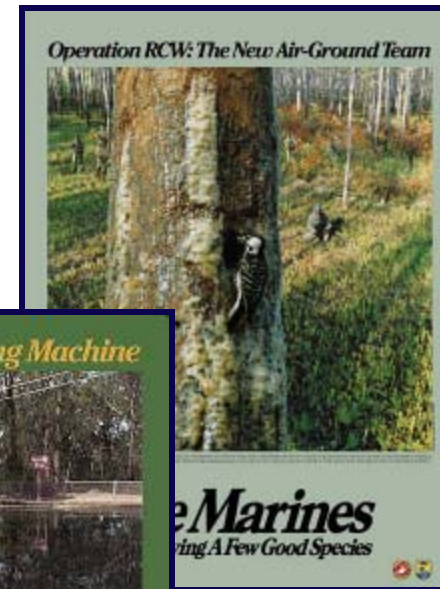
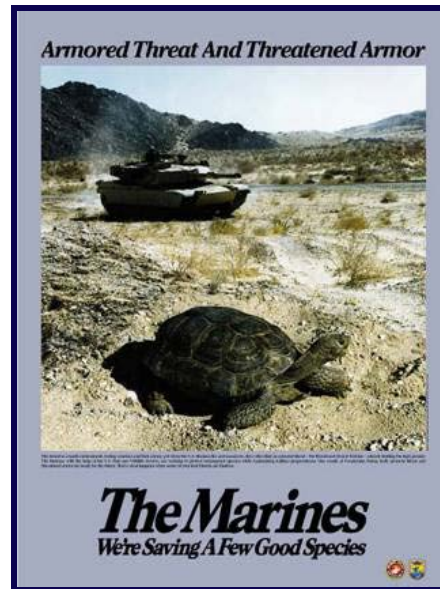
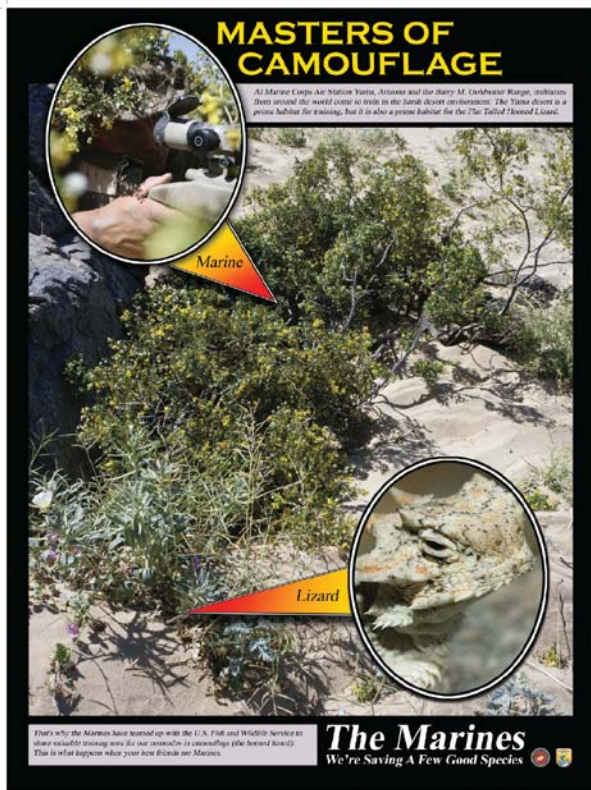
**REWARD**  
If you have information concerning this invasive species, please contact us at [www.dodlegacy.org](http://www.dodlegacy.org) or [www.afjapb.org](http://www.afjapb.org)

# Marine Corps posters

## *"We're saving a few good species"*



[www.fws.gov/angered/pubs/marines.html](http://www.fws.gov/angered/pubs/marines.html)





# Workshops, Trainings, and Conferences

- ▶ Regional Threatened, Endangered, and At-Risk Species (TER-S)
- ▶ SWAP/INRMP Integration
- ▶ Sikes Act Training Course
- ▶ Sustaining Military Readiness (SMR)
- ▶ National Military Fish and Wildlife Association (NMFWA)



# National TER-S Symposium

- ▶ Technical Symposium & Workshop: *Threatened, Endangered, and At-Risk Species (TER-S) on DoD and Adjacent Lands* (June 2005)
- ▶ Sponsors: Environmental Research and Development Center, Strategic Research and Development Program, Legacy Resource Management Program
- ▶ 3 regional TER-S workshops



# Meeting the TER-S Need Regionally

- ▶ Pacific Islands Region
- ▶ Southeast Region
- ▶ Southwest Region
- ▶ [www.serdp.org/tes](http://www.serdp.org/tes)



Crested Honeycreeper.  
Photo, USGS



Ulu Pau Crater,  
MCB Kaneohe Bay



Sonoran tiger  
salamander



# SWAP/INRMP Integration Workshops



- ▶ Goal: Integrate State Wildlife Action Plan and Integrated Natural Resource Management Plan actions
- ▶ Audience: Regional representatives from military installations, USFWS, and the states
- ▶ [www.swap-inrmpworkshops.net](http://www.swap-inrmpworkshops.net)
  - Northeast (June 2008)
  - Mid-Atlantic (Nov 2007)
  - Southern Plains (May 2007)
  - Southwest (December 2006)
  - Southeast (May 2006)





# Sikes Act Training Course

- ▶ Goal: Improved understanding of the Sikes Act
- ▶ Audience: Installation, USFWS, and state personnel
- ▶ One-day Course
  - Army Sustainable Ranges Conference (July 2009)
  - Sustaining Military Readiness Conference (August 2009)
- ▶ Two-day Course
  - USFWS National Conservation Training Center (September 2009)

# Sustaining Military Readiness Conference



2009 SUSTAINING MILITARY READINESS CONFERENCE  
BUILDING PARTNERSHIPS TO SUSTAIN OUR FUTURE



Ice melt off Larsen Ice Shelf, Antarctica,  
Photo: earthobservatory.nasa.gov

- ▶ Readiness and Ranges, Office of Economic Adjustment, Conservation
- ▶ Climate Change, Sustainability
- ▶ 9-14 August 2009 in Phoenix, AZ
- ▶ <http://smrconference.com/>

# National Military Fish and Wildlife Association Conference



- ▶ DoD Policy Update
- ▶ Technical Workshops
  - Pollinators
  - [www.dodpollinatorworkshop.com](http://www.dodpollinatorworkshop.com)
- ▶ Technical Sessions
  - Biodiversity Outreach Toolkit
- ▶ Working Groups
  - Invasive Species



Golden-cheeked Warbler at Camp Bullis, Texas.

Douglas Ripley

Beale AFB, California



# Online and printed resources

- ▶ Conserving Biodiversity on Military Lands: A Guide for Natural Resources Managers
- ▶ Resources for INRMP Implementation
- ▶ DoD TES Document Repository
- ▶ Topic-specific websites and fact sheets

# Conserving Biodiversity on Military Lands: A Guide for Natural Resource Managers



- ▶ The Biodiversity Handbook
- ▶ The Commander's Guide
- ▶ [www.dodbiodiversity.org](http://www.dodbiodiversity.org)



# Conserving Biodiversity on Military Lands: A Guide for Natural Resource Managers



Carnivorous pitcher plants at Fort Bragg



Biological survey at Smoky Hill Air National Guard



Buffer zone at Davis-Monthan AFB, AZ

# Resources for INRMP Implementation

The cover of the handbook "Resources for INRMP Implementation: A Handbook for the DoD Natural Resources Manager". The cover features a collage of nature images on the left, including a desert landscape, a tree, a forest, a river, and a snowy field. The main title is in large blue letters, and the subtitle is in white. At the bottom, there is a "LEGACY" logo and a circular seal of the Department of Defense Legacy Program.

**Resources for  
INRMP Implementation**

*A Handbook  
for the  
DoD Natural Resources  
Manager*

**LEGACY**

The logo for the Department of Defense Legacy Program, featuring an eagle with wings spread, a globe, and the text "DEPARTMENT OF DEFENSE" and "LEGACY PROGRAM".

<http://www.denix.osd.mil/INRMP>

# DoD Threatened and Endangered Species Document Repository



- ▶ Partnership with NBII
- ▶ Documents can be continually added
- ▶ Searchable by species, keyword, document type, or stressor
- ▶ 18 species currently covered
- ▶ <http://www.nbii.gov/>



Mexican spotted owl. FWS photo.



# Websites and Fact Sheets

- ▶ Fact sheets
- ▶ [www.denix.osd.mil](http://www.denix.osd.mil)
- ▶ [www.serdp.org](http://www.serdp.org)
- ▶ [www.estcp.org](http://www.estcp.org)
- ▶ *In development:* topic-specific websites



Monitoring endangered Sonoran pronghorn antelope at the Barry M. Goldwater Range



# Summary

- ▶ Outreach Toolkits
- ▶ Conferences and Workshops
- ▶ Other Resources
- ▶ Biodiversity is important to the military mission
  - Mission
  - Stewardship



**Thank you!  
...any questions?**

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