

# US Marine Corps Five-Year Watershed Assistance Project

USDA Forest Service  
Northeastern Area  
State and Private Forestry



**Description:** At the request of the U.S. Marine Corps, the Northeastern Area's (NA) Military Working Group stationed Larry Soenen, a U.S. Forest Service watershed specialist, at USMC Camp Butler in Okinawa, Japan, from February 2002 until July 2007. His job initially was to develop watershed monitoring systems to measure red soil runoff from the installation. Because of his expertise, his role quickly expanded to include supervising all watershed and erosion control activities on the installation. After five years the project was completed and turned over to the installation and local government. When initial monitoring results started coming in it was determined that the sediment was not coming from United States military operations but from local Okinawan farmers on the installation. As a result of this we were asked to develop a program of soil conservation for local farmers. Our efforts led to a 50 percent reduction in red soil runoff from the installation

## Key Issues:

- Red soil runoff on Okinawa is a serious problem that affects current military training, reduces soil fertility, and severely impacts the surrounding coral reefs.
- Need for installation to balance current training needs with environmental protection.
- The Marine Corps continues to return portions of camps and training lands on Camp Butler back to the government and people of Japan. These areas need to be restored and the training areas to be built to replace them need to be managed properly to ensure the natural resources are protected and there are minimal impacts to future training.

## Accomplishments:

- Working with specialists from Camp Butler, the Okinawan Prefecture Government and the Government of Japan set up automated monitoring systems and trained local government scientists in monitoring methods. The data led to a universal soil loss equation that will provide information on how to manage lands on Camp Butler effectively.
- Provided training to Okinawan and Government of Japan scientists in watershed monitoring.
- These monitoring efforts were successful in shifting the focus of the Government of Japan's Red Soil Countermeasures Section from building check dams to site specific solutions that prevent the red soil from reaching the waterways.
- Worked with local farmers on the installation to set up best management practices to reduce erosion on the installation
- Evaluated and developed new watershed and natural resource management policies and procedures that created a paradigm shift in the concepts and designs used not only by the US Marine Corps but by the Japanese government to develop and manage erosion control and land management programs.
- By stressing need for watershed management, proper low maintenance road design, closure of old roads, enhanced slope stability techniques, and vegetation management practices we convinced Camp Butler and Japanese scientists for the need to change out-of date practices.
- Conducted two training sessions for Marine and Navy CB personnel on construction of low maintenance road designs to help mitigate erosion.
- Developed standard operating procedures for various methods of vegetative cover that are more effective for the environment of Okinawa than were previously used. Also, ensured that these new policies were institutionalized with Marine Corps facilities engineering communities.

## Future Direction:

- Although project has been completed we will continue to provide detailers to the installation for watershed management support and training in road construction.

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