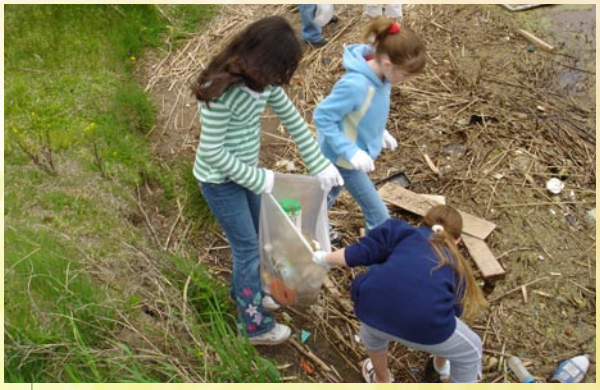
Misawa Air Base

Environmental Quality — Overseas Installation

Nestled in the northern reaches of Japan's main island lies Misawa Air Base (AB). The base's environmental outreach activities and strong partnering with governmental and community neighbors have resulted in a positive geo-political atmosphere. Misawa Air Base's Environmental Quality program distinguishes itself through superior program management, inter-service cooperation, and host nation involvement.

Misawa consistently leads the way; first in the Pacific Air Forces (PACAF) to declare Environmental Management System (EMS) **"In Place"**. The Environment, Safety, and Occupational Health Council (ESOHC) ensures top level support, while the EMS along with the Unit Environmental Coordinator (UEC) program achieves base-wide involvement.

REPLACEMENT OF HIGH PRESSURE SODIUM VAPOR LAMPS with energy efficient fluorescent lamps in hardened aircraft shelters conserved electricity and improved light quality, meeting mission and environmental goals.



DEPARTMENT OF DEFENSE DEPENDENT SCHOOL STUDENTS (DoDDS) gain "hands-on" experience learning stewardship principles at a base beach clean-up event.

Misawa boasts an unparalleled environmental alliance between the Air Force (AF) and Navy, including joint operations of a Hazardous Materials Pharmacy, a Hazardous Waste Storage Facility, and a jointly managed base Spill Response Team.

Through collaborative host nation and U.S. Military partnerships, Misawa has truly integrated environmental stewardship with mission accomplishment. Benchmark environmental planning to protect native species, and nine annual Earth Day events promote environmental education and stewardship. All of this validates what we like to say... "Everyday is an Earth Day at Misawa"!

ACCOMPLISHMENTS

- Collaboration with Government of Japan led to the recovery of 5,000 Jomon Period pottery shards and stone tools during a new road project.
- **FIRST** ever Government of Japan Ministry of Environment water quality survey. Officials lauded stewardship and attention to detail.
- Team Misawa was first installation in the PACAF to reach the coveted EMS "In-conformance" milestone.
- Recycling initiatives increased solid waste re-use by 10 percent.
- Energy conservation program, resulted in annual savings of $539,000.
- Volunteers from Misawa AB and local community removed over two tons of debris from Hotokenuma wildlife area, a site listed as a "Wetlands of International Importance" on the Ramsar registry.
- Removed over 449 tons of potentially explosive debris from Draughon Range, restoring 582 acres of habitat.
- Energy Recovery Program reduced hazardous waste generation by 86 tons and saved $54,000 in disposal costs.
- Recycled 143,000 pounds of refrigerators.
- External PACAF evaluation team stated Misawa AB implements the **"Best environmental program seen in 20 years working for the Air Force"**.

INTRODUCTION

Misawa AB, home to the 35th Fighter Wing (35 FW), is located on the northern tip of the main island of Japan, approximately 400 miles north of Tokyo. The installation spans 3,865 acres, with an additional 1,892 acres managed at Draughon Range. The base has the unique distinction of being the only combined joint service bilateral installation in the western Pacific. In addition to the U.S. forces coalition operating from Misawa AB, the installation hosts Japan's Northern Air Defense Forces and the Japan Air Self Defense Force (JASDF) 3rd Air Wing. The 35 FW mission is to "help defend Japan and promote regional security in the Pacific by providing forward presence, deployable forces and quality mission support."

MISAWA AB IS LOCATED on the northern tip of the main island of Japan, approximately 400 miles north of Tokyo. The 35 FW is the host unit at Misawa AB. The base has the unique distinction of being the only combined joint service installation in the western Pacific with units assigned **from every branch of the United States Armed Forces**.

The 35 FW flies two squadrons of the Block 50 model F-16J and F-16DJ Fighting Falcon. Its pilots fly air-to-air weapons delivery exercises over water and sharpen their air-to-ground skills using the Draughon gunnery range located 12 miles north of the main installation. Misawa AB serves as home station to more than 12,600 active duty personnel, U.S. and Japanese civilian employees, and U.S. dependents.

Misawa is located in a rural portion of Aomori Prefecture, approximately three miles inland from the Pacific Ocean on the northeast coast of Honshu, the largest of the four main Japanese islands. The main industries in the area are farming and fishing. Misawa AB is bounded by Misawa City to the south and east, the Aomori Game Reservation to the north, and Lakes Ogawara and Anenuma to the northwest and west.

BACKGROUND

Misawa AB's environmental programs are primarily managed by 35 Civil Engineer Squadron Environmental Flight (35 CES/CEV). The Environmental Flight has authorizations for eleven positions comprised of, two US civilians, three US Officers, and six Japanese National civilians.

Due to real world requirements and personnel turnover the small but mighty Environmental Flight has continuously operated 30-40% undermanned over the past two years. Despite the manpower obstacle, a positive "Can Do" attitude has led to continuous mission accomplishment.

The Environmental Flight leverages its limited manpower resources through effective management of three strategic programs:

- The Environment, Safety, and Occupational Health Council (ESOHC)
- Unit Environmental Coordinator (UEC) Program
- Environmental Management System (EMS) Cross-Functional Teams (CFTs)

ESOHC

The ESOHC is the most important component to Misawa's overall environmental success. Misawa's ESOHC is an executive level steering group chaired by the Installation Commander, and comprised of senior leaders from all AF functions, and tenant organizations. The Environmental Flight schedules quarterly ESOHC briefings to update senior leadership on the status of key environmental programs and to identify any constraints to success.

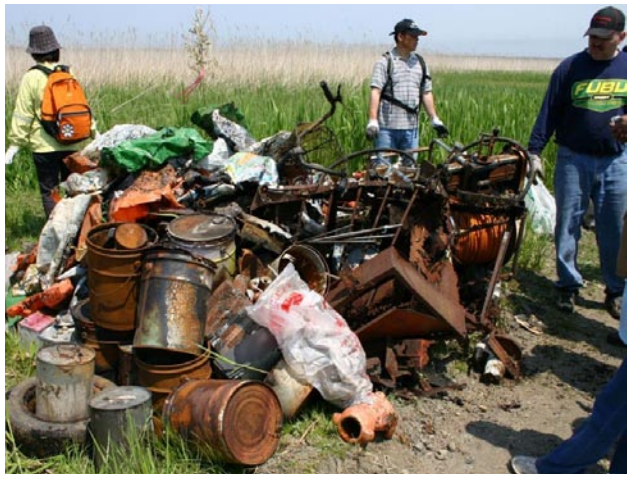
By keeping the meeting agenda action based, and presenting well crafted proposals to address the base's environmental challenges, the ESOHC is as an effective medium to obtain senior leadership support, and to secure the resources necessary to accomplish the base's environmental objectives.

UEC Program

Misawa implements a benchmark UEC program effectively achieving an environmental force multiplier of more than 60 personnel. Under the UEC program, each

organization's Squadron Commander, or tenant organization equivalent, appoints a primary and alternate UEC to be their focal points for managing environmental issues within their organization. Through a combination of in-house classroom trainings and field exercises, CEV instructors are able to instill principles in these organizational experts that helps them consider the environmental aspects of their job duties as part of day-to-day operations.

The UECs are a tremendous resource at Misawa, serving in numerous positions on the base's environmental subcommittee cross-functional teams (CFTs) that report quarterly to the ESOHC. This program also provides required augmentation during annual internal environmental evaluations when the UECs fulfill crucial assessor duties.



HOTOKENUMA WETLANDS, A RAMSAR LISTED SITE, was brought to public attention after the siting of a World Conservation Union Red Listed Japanese Marsh Warbler. Over 100 volunteers from Misawa AB and the local community joined together to remove over two tons of debris.

Environmental Management Systems CFTs

The EMS program for leveraging manpower resources involves empowerment of the robust CFT to implement and manage Misawa's EMS program. To obtain the broad range of knowledge necessary to construct an EMS program from the ground up, CEV submitted a proposal to the ESOHC for the base's UECs to serve as EMS CFT members.

The ESOHC approved and commended this approach, noting that using the UECs provides interdisciplinary expertise crucial to effectively implement a program that touches every member of the base. The EMS CFT accomplished numerous milestones during the development of the EMS program. These milestones included identification and prioritization of over 3,000 aspects /impacts, creation of an implementation plan, development of targets and objectives, preparation of Environmental Management Plans, and training of individual unit personnel.

Misawa's environmental program is effective at gaining leadership support through the ESOHC, providing a robust program to train and develop UECs, and utilizing UECs to serve on the EMS CFT. The combination of these were used extensively to prepare the installation for an EMS Management Review in November of 2005. At the conclusion of this review, the Wing Commander declared the installation's EMS "In-Place" and distinguished Misawa as the first base in the PACAF major command to achieve this monumental milestone.

PROGRAM SUMMARY

The mission of CEV is to ensure environmental excellence at Misawa AB by perpetually striving for 100 percent environmental compliance with the Japan Environmental Governing Standards. Misawa AB minimizes future pollution by reducing the use of hazardous materials and the release of pollutants to as near to zero as feasible. Misawa's living and working environment is vastly improved by conservation of natural and cultural resources through effective environmental planning and reducing health and safety risks created by past operations. To ensure successful mission accomplishment, the flight established mission objectives:

- Incorporate environmental consequences of proposed actions and reasonable alternatives into all levels of decision making.
- Facilitate an annual ESOH Compliance Assessment and Management Program (ESOHCAMP) to identify all compliance deficiencies and effectively manage the findings to closure.
- Promote a progressive pollution prevention program by acquiring state-of-the-art pollution prevention technologies and improving training and awareness.
- Ensure proper and expedient hazardous material spill response procedures.
- Identify environmental opportunities and constraints as the foundation of the base comprehensive plan for installation development.
- Protect and manage environmental resources under AF stewardship within public interest.
- Provide and accurately track comprehensive waste manager and handler training.

ACCOMPLISHMENTS

Misawa successfully accomplished 45 milestones on the way to implementing the EMS program and declaring it "In-conformance", in accordance with Air Force policy. EMS CFT meetings are routinely held to accomplish tasks as part of the continuous improvement process. The ESOHC is briefed on the bases progress towards achieving stated objectives and targets.

One daunting task in establishing an EMS program and declaring it "In-conformance" involves the completion of three separate levels of training. Misawa's EMS training provides a great opportunity to showcase the type of innovative talent routinely employed. Misawa environmental personnel used slides and a video to complete executive level training in conjunction with routinely scheduled ESOHC briefings. This forum provided leadership cross-feed opportunities, and supported an understanding of roles and responsibilities.

The EMS CFT members were trained by CEV personnel in conjunction with EMS subcommittee meetings. Additionally, CEV piggy-backed with a training opportunity that brought two Air Force Institute of Technology (AFIT) instructors to Misawa, and delivered the same type of high quality EMS training easily available to CONUS personnel. AFIT instructors trained 50 personnel at a cost of only two days per diem.

This was far more cost effective than sending even one person from Misawa to AFIT at Wright Patterson AFB. To complete EMS Awareness Training for all base personnel in accordance with PACAF criteria (which includes all U.S. military, U.S. and Japanese civilians, contract employees, volunteers, and part-time workers), the base implemented a multi-phased awareness training program.

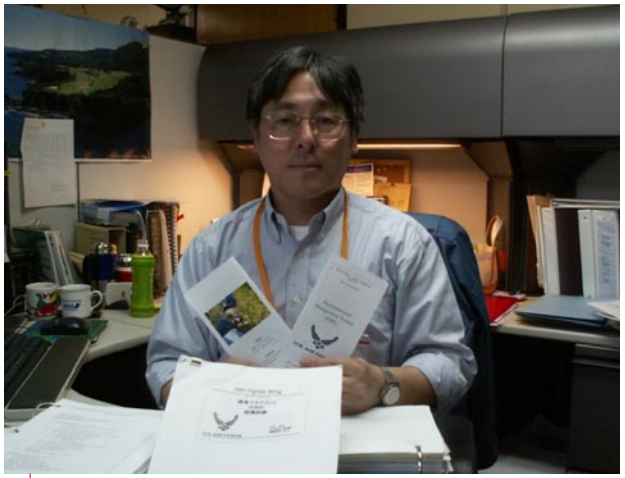
Web based online training was made available and used by the majority of base personnel; mass briefings were delivered in the base theater; "train the trainer" presentations were created and delivered to shift leads that worked off hours or didn't have access to computers; and EMS training brochures were developed in-house in both English and Japanese languages. This program allowed the Environmental Flight and EMS CFT to successfully deliver EMS training to 6,000 base personnel 3 months ahead of schedule.

After hearing about Misawa's successful "train the trainer" program and EMS brochures, other AF installations in Japan requested the information for implementation in their own EMS programs.

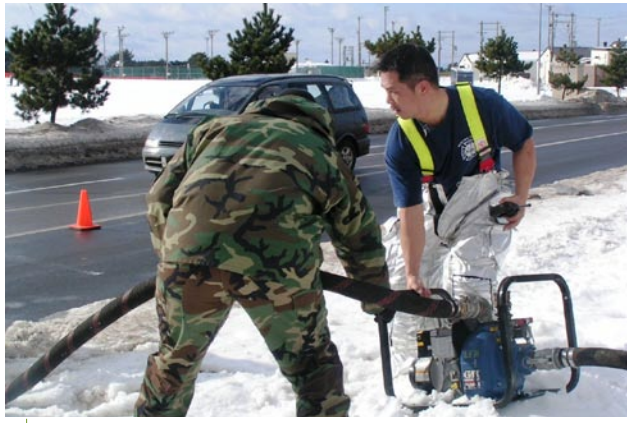
To better employ the personnel resources of the EMS CFT, target teams are used to focus attention on specific significant environmental aspects related to EMS CFT members' job duties. One EMS CFT target team is focused on energy reduction. In support of the EMS Management Review the base completes a detailed internal assessment of all the environmental programs annually. This is accomplished under the procedures of the environmental programs annually. This is accomplished under the procedures of the AF's ESOHCAMP.

In 2006 PACAF Headquarters sent a 19 member team to conduct an external assessment of the bases conformance with Host Nation environmental regulations, as well as DoD and AF policies. At the end of an intense week long evaluation the PACAF team briefed base leadership on the findings. The results showed the base had a 44% reduction in major and minor findings compared to the 2002 external evaluation.

The PACAF Team Lead stated that this was the "best environmental program seen in 20 years working for the Air Force." Following the ESOHCAMP, environmental personnel conducted the first ever briefing on the AF's self-evaluation program to JASDF's Commanding General. The JASDF/CC praised the program and the Air Force's dedication to protect the shared environment.



MISAWA AB CREATED BILINGUAL BROCHURES and a "train the trainer" program to allow the training to reach everyone on the base. The program was a success and soon spread to other PACAF bases for their use.



MISAWA FIRE DEPARTMENT AND SPILL RESPONSE TEAM personnel set up a pump to recover 13,400 gallons of a heating oil and water mixture from inside a utility vault at the Base Command Post. The release resulted from a heating oil supply line failure. The Spill Response Team's quick response to recover released hazardous material and repair the supply line were critical to restoring Command and Control capabilities.

Pollution Prevention

Misawa's remote location plus the high cost of shipping in Japan creates unique challenges for solid waste recycling. The base approach had been to contract for "end of pipe" recycling at an off base facility. In Oct 2005, significant steps were taken to institute a source separation recycling program in all Military Family Housing and Unaccompanied Enlisted Housing to increase solid waste diversion. Volunteers from the Misawa Boy Scout Association, Airman Leadership School, and the AF and Navy environmental programs spent a rainy October Saturday going door-to-door to distribute over 3,000 two-part recycling bins. Informational magnets and brochures about the new program were also provided to residents. The initiative led to a 10% increase in solid waste diversion above baseline.

Other pollution prevention program highlights include the following:

- Aggressive energy recovery program; materials from 59 waste streams collected and sold to a Defense Reutilization and Marketing Office contractor. Program reduced hazardous waste generation by 86 tons and saved $54,000 in disposal costs.
- Parts washer solvent recycling programs decreased hazardous waste disposal by 33,000 pounds and saved $22,000.
- Complying with more stringent Host Nation regulations, 143,000 pounds of refrigerators recycled, and ensured proper disposal of chlorofluorocarbon containing insulation.
- Fluorescent bulb crusher at the Navy/AF Joint Hazardous Waste Storage Facility consolidated 55,279 lamps and reduced waste shipping/disposal charges.
- Over 370 tons of pallets are reused annually resulting in a cost savings of $20K each year.

Corrective Actions and Cleanup

Flying operations were secured through execution of a 32 acre tree removal project. Tree growth along the west end of the runway was severely impacting the clear zone, forcing consideration of a change in flight paths and glide slope.

Base personnel overcame Misawa City Archeologist's concerns the project would degrade un-recovered cultural resources. The resources were protected by minimizing heavy equipment operations in the undisturbed areas, leaving the stumps in place to maintain bank stability, and chipping the trees and brush removed so they could be spread over the exposed areas to prevent erosion.

A railcar fuel off-load header with inadequate secondary containment was removed from service to allow ground breaking for a $762,000 truck off-load header project. The new facility design ensures the protection of the host nation environment and provides improved security for fuel delivery. The 35 CES Explosive Ordinance Disposal (EOD) personnel led an effort with JASDF personnel to survey 582 acres on Draughon Range and remove over 449 tons of practice bombs. EOD personnel rendered the bomb debris inert through inspection and/or detonation. The inert materials were successfully recycled for metal recovery at a Japanese smelting facility.

On a Saturday in January 2006 the Base Spill Team members responded to a 1,086 gallon heating oil release inside a utility vault at the Base Command Post. Using only in-house resources the Team took immediate action to remove 13,400 gallons of a contaminated heating oil and water mixture, and restored the critical Command and Control operations. Base Spill Team members also responded to a 2.6 gallon hydrazine release inside a base hangar. Spill Team Members completed a textbook response by blocking floor drains to contain the release and prevent off site migration. Once contained, the hydrazine was neutralized, collected, and disposed of safely.

Community Relations

Misawa AB strengthens community relations through the annual execution of nine Earth Day events conducted throughout the year that promote earth-friendly principles and increase awareness of Japanese culture.

Community Relations annual events:

Baby Salmon Release — partnership with 9 community organizations to release 200,000 salmon fry to a local river.

Misawa Artifacts Display — artifacts recovered from Misawa Air Base and the local community put on display to share the rich Japanese history/culture.

Misawa Fish Port Cleanup — over 500 base and community volunteers join together for this annual trash removal event.

Earth Day Drawing Contest — over 300 DoDDS students submit pictures showing what Earth Day means to them.

Rice Planting — partnership with local farmers allows for a cultural exchange by offering base personnel an opportunity to experience traditional rice planting techniques.

Base Beach Cleanup — DoDDS students gain "hands-on" experience learning stewardship principles and help prepare the base for Memorial Day celebrations.

Hotokenuma Ramsar Site Cleanup — cleanup and restoration of habitat for Japanese threatened and endangered species (first event held May 06).

Rice Harvest — allows another opportunity for a cultural exchange regarding traditional rice harvesting techniques.

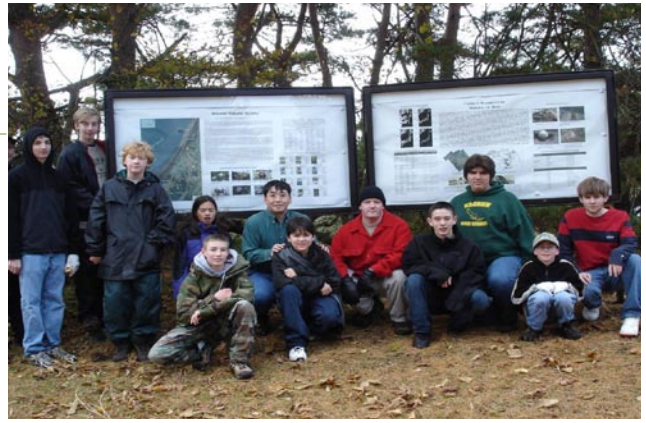
America Recycles Day — outreach activities highlight importance of recycling and promote sensitivity for host nation environmental resources.

In addition to the annual Earth Day events, environmental personnel actively engage with new projects that improve community relations. One example was the three month long project was completed to restore an abandoned nature trail on base. Through a unique partnership, the bulk of the workforce used to restore the trail was provided by volunteers from Misawa Boy Scout Association, a University of Maryland biology Professor, and base environmental personnel. The team restored the footpath, replaced bridges, and cleared overgrown vegetation along the two kilometer trail.

Over 80 different species of flora were identified, many of which are unique to Northern Japan. The team installed 53 signs along the trail that display the flora species' photographs and their scientific names both in English and Japanese languages. Two story boards were installed at the head of the nature trail. The first depicts local flora and fauna, gives details on protected species, and has a full map of the trail. The second provides historical facts on Misawa AB, the formation of the Japanese islands, and provides several examples of significant findings of Jomon Period (10,000 BC to 300 BC) pottery found on base.

TEAM MISAWA RESTORED A TWO KILOMETER NATURE TRAIL not only to enhance Misawa AB's appearance but also to provide an educational opportunity for the community regarding Northern Japan's local flora and fauna. Informative signs along the trail help identify surrounding features. The trail is open year round to Misawa AB residents.

In May 2006 Misawa AB began a new annual Earth Day cleanup activity. Over 100 volunteers from base and the local community joined together to remove over two tons of debris from a Japanese wildlife refuge near the base. The site, consisting of converted rice fields that were included under a Government of Japan reclamation project in the early 1960s, gained significance following sightings of the Japanese Marsh Warbler (Locustellapryeri). The Japanese Marsh Warbler, which is only found in limited parts of China and Japan, is believed to have a world population of only 2,500.
The Hotoke-numa Ramsar site is the world's largest breeding site for the Japanese Marsh Warbler and contains over 40% of the total world population of this species. The wildlife refuge is also a known breeding site for the endangered Japanese Reed Bunting and Schrenck's Bittern, and is an important staging area for migratory birds. Participation in this Earth Day activity strengthened the community perception of Misawa as a good neighbor, and provided a rare chance for base personnel to increase awareness of Japan's threatened and endangered species.



Environmental Planning and Analysis
Planning is key to achieving and sustaining environmental compliance and eliminating costly project delays. Misawa fulfills National Environmental Policy Act requirements by implementing the Environmental Impact Analysis Process (EIAP) procedures found in Air Force Instruction 32-7061. Each year environmental personnel perform a full review of every project in the Base Comprehensive Plan that are planned for execution within the next five years.

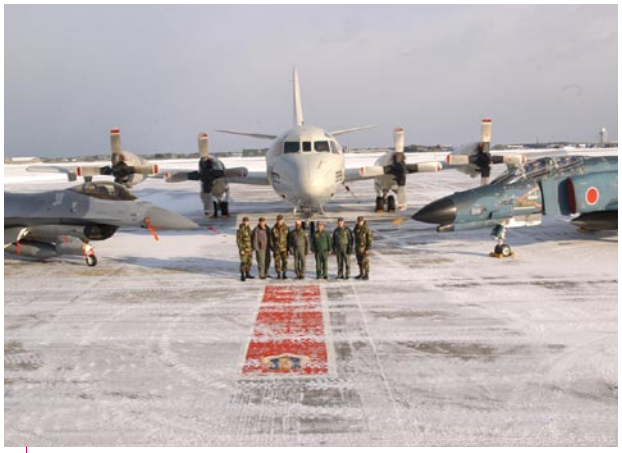
Projects that can be categorically excluded from further analysis are identified, and those requiring further environmental analysis are prioritized based on the year of planned execution. This approach is beneficial in several ways:

- It allows base leadership to make informed decisions about the cumulative impacts of planned actions.
- It allows personnel to complete the required environmental analysis well ahead of project construction schedules.
- Bundling similar types of projects, or bundling projects that are sited in the same geographic area of the base reduces Environmental Review costs (overseas equivalent of an Environmental Assessment).

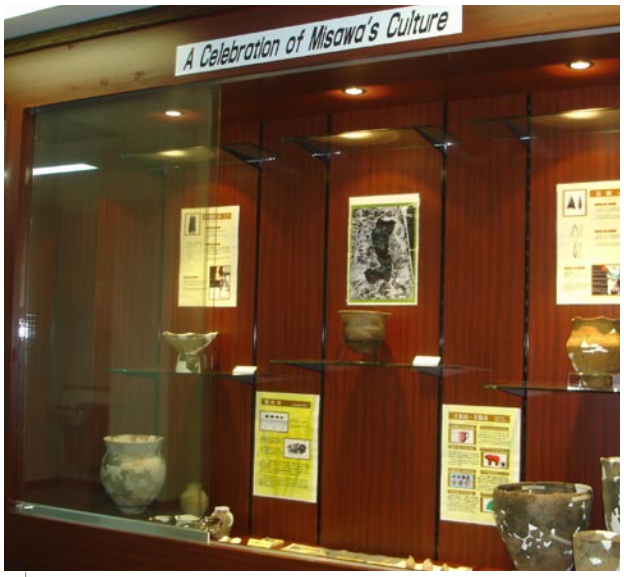
Using this technique over the last several years has reduced the average cost to complete an Environmental Review from $30,000 to $15,000. This process was evaluated during the 2006 PACAF external ESOHCAMP assessment and earned the base a positive finding.

Even with the best planning efforts, new out of cycle requirements surface that need immediate attention to ensure mission success. Misawa's track record supporting unscheduled environmental evaluations is outstanding. Some examples are provided below:

- EIAP completed in support of Missile Defense Agency operation that aerial launched a missile pointed towards the continental United States to check early warning detection systems.
- Phase II cultural resources survey and Environmental Review completed in support of Army Space and Missile Command in-theater missile warning system mission bed down. Partnership with Host Nation archeologist for cultural resources survey saved $85,000.
- Environmental analysis completed to support Security Forces personnel to use a portion of Draughon Range for M-203 grenade training; training locally saves $14,000 per year.



US AIR FORCE, US NAVY AND JAPAN SELF DEFENSE FORCE COMMANDERS form a strong coalition defending Japan and promoting US security interests in the region.



ARCHAEOLOGICAL EXHIBIT displaying artifacts found on base. Some artifacts found have been dated back 10,000 years.