Bureau of Land Management
National Office of Fire and Aviation
International Program

Fiscal Year 2000
Activity Report

http://web.blm.gov/internal/fire/

Introduction

Fiscal Year 2000 provided the National Office of Fire and Aviation Management's International Program (IP) with some unique challenges and opportunities. While carrying out its international exchange program, IP was called upon to support fire suppression efforts during the devastating 2000 fire season.

IP took a leading role in developing and implementing unprecedented international arrangements with Australia and New Zealand. This resulted in the mobilization of 90 Australians and 7 New Zealanders who came from "Down Under" to assist with fire fighting efforts in the U.S.

IP worked with the U.S. Embassy in Mexico to mobilize and expedite the entrance of two Mexican nationals into the U.S. to assist with fire support efforts at the Rocky Mountain Cache in Denver. This was the first time Mexican nationals were brought in as single resources to assist in U.S. fire fighting efforts.

IP also assisted the National Interagency Coordination Center with the briefing and mobilization of six battalions of military troops to fires in the Eastern Great Basin and the Northern Rockies.

IP was also involved in supporting other activities. Through a reimbursable agreement with the U.S. Forest Service, IP coordinated with BLM offices to identify employees to participate in fire management training initiatives in Mexico and fire coordination initiatives in Indonesia. Through a second reimbursable agreement with the Forest Service, IP coordinated BLM support of the U.S. Government's international disaster response activities. Employees with emergency management backgrounds gained through years of experience suppressing wildland fires, applied their skills supporting relief efforts for disaster victims in places such as Africa, the Balkans, Asia and Central America.

Goals of the International Program

The International Program continues to focus on three main goals. As in past years, these goals look at improving Bureau programs and individual employee skills and providing challenging professional and personal experiences. The three goals are:

1. **Improve BLM's fire and aviation program through international exchange activities that work with other nations to:**
   - Share ideas, techniques, and skills,
   - Acquire new methods of dealing with common problems of wildland fire management.

2. **Assist other agencies' training and support initiatives using BLM employees to:**
   - Improve the fire management skills of other nations,
   - Assist with the US Government's response to international disasters.

3. **Provide challenging international assignments for employees which**:
   - Expand perspectives and knowledge,
   - Increase professionalism,
   - Enhance employee morale, self-esteem and motivation,
   - Increase adaptability to new and challenging situations,
   - Create an atmosphere for innovative thinking,
   - Develop leadership qualities,
   - Highlight the diversity of skills and abilities within BLM.

The International Program in FY2000

General

Fiscal Year 2000 saw IP support the international travel of 18 BLM employees from Montana, Alaska, Colorado, California, Idaho, and the National Office to Russia, Mexico, Norway, Finland, Germany, and Canada. In turn, seven foreign officials came to the U.S. on BLM exchanges to study various aspects of the wildland fire community's interagency fire management systems. International guests came from Russia, Norway, and Mexico. These guests were hosted by Oregon, California, Montana, Nevada, and the National Office.

Budget and Staffing

The IP operational budget for FY00 was $230,000. The costs associated with this year's exchanges were not as high as estimated and IP well underspent its operational budget. IP has asked for $200,000 in operational funds for FY01.

In FY00, IP had a $250,000 reimbursable agreement with the Forest Service's Disaster Assistance Support Program (DASP) which is a branch of the Forest Service's International Program. IP has another reimbursable agreement with DASP for FY01 for $250,000.

During FY00, the IP staff consisted of two permanent employees and a detailer for the summer. IP has requested one more position for FY01. The position would be to assist with increasing IP programmatic activities.

Main Activities

The International Program continues to concentrate in the following four activity areas:

1. **Technical and Scientific Exchange Activities Dealing with Wildland Fire Management Issues**

   Through international technical and scientific exchanges, BLM employees are exposed to new techniques, equipment, procedures and approaches to similar wildland fire management issues. Exposure to other countries' strengths and weaknesses may reveal better and sometimes simpler

approaches to the same issue. These activities are funded by the Office of Fire and Aviation and by the states that have participated.

Technical and scientific exchanges in FY00 involved sending one person to Norway, three to Russia, three to Mexico and two to Germany. In turn, BLM offices in Nevada, Oregon, Montana, California, and the National Office, hosted two visitors from Mexico, three from Russia, and one from Norway.

2. Technical Support to International Wildland Fire Training, Assessment, Prevention/Education, and Mitigation Programs

IP works closely with staff members of the Forest Service's International Programs on several projects dealing with international fire programs in Mexico, Brazil, Russia, and Indonesia. These activities are funded through a reimbursable agreement with the Forest Service with some BLM salary contribution.

Through this activity, in October 1999, four Mexican nationals from Mexico's Secretariat of Environment, Natural Resources, and Fisheries (SEMARNAP) received a special one week Communications Unit Leader course in Boise. The purpose of the course was to improve the technical skills and abilities of Mexican telecommunications specialists who are responsible for the set up, use, and maintenance of the telecommunications equipment used by SEMARNAP.

Another international assignment under this activity involved an Alaska Fire Service employee traveling to Indonesia where he assisted in the coordination and facilitation of a meeting between regional fire management officials and private land owners. The goal of the meeting was to improve coordination of Indonesian fire management efforts.

3. Technical Support to the U.S. Government for International Disaster Response Activities

Through another reimbursable agreement with the Forest Service's Disaster Assistance Support Program (DASP), IP provides employees and services to the U.S. Agency for International Development's Office of Foreign Disaster Assistance (OFDA).

The FY00 reimbursable agreement with DASP was for $250,000. The entire amount was obligated to cover expenses incurred by BLM employees supporting DASP requests and to pay for requests for specialized supplies and equipment. During FY00, 11 BLM employees from Montana, Nevada, Oregon, Alaska, New Mexico, the Great Basin Cache, the Boise Smokejumpers and the National Office were on detail with DASP and OFDA for approximately *16 work months of base 8 salaries*. These employees came from both fire and resources staffs. One detail included international travel to Kosovo.

In an effort to continue to prepare employees to support OFDA in Washington and for potential international disaster assignments, IP works with DASP to prepare and present Disaster Assistance Response Team (DART) training. Fourteen BLM employees from both fire and

resources staffs completed the training at two sessions in FY00. States represented in the training were, Alaska, Oregon, Utah, Colorado, Nevada. There were also participants from the National Interagency Coordination Center and the National Office. The number of employees trained in the past two fiscal years totals 36.

4. International Meetings and Conferences

IP coordinated the participation of several employees at international meetings and conferences dealing with fire and aviation issues. The following is a listing of those meetings:

- International Wildland Fire Safety Summit - Sydney, Australia - 11/99
- INTERFACE Fires 2000 - Halifax, Nova Scotia - 5/00
- BALTEX 2000- Kuopio, Finland - 6/00
- Aircraft Conference - Northern Ireland - 6/00

5. Other international activities

Wildfire Protection Agreement between U.S. and Mexico:

IP continues to participate in developing the operational guidelines for implementing the international cross-border agreement between Mexico and the U.S. which was signed in 1999.

Australia and New Zealand Agreements:

Following up on the unprecedented use of Australian and New Zealand fire fighters during the 2000 fire season, IP is assisting in drafting language for a formal agreement for sharing fire management resources among the countries.

Hosting of Delegations and Visitors:

IP hosted and briefed international several delegations and visitors this year. These are in addition to the exchange program activities. Delegations and visitors came from the following countries:

- Australia
- Israel
- Korea
- Spain

Conclusion

IP continues to provide BLM employees from both fire and resources staffs with challenging and stimulating international assignments where employees learn and share a great deal about their jobs and about themselves. IP looks forward to providing similar opportunities to motivated employees who seek innovative ways to improve their skills at home and to expand their knowledge of the world.

INTERNATIONAL PROGRAM ACTIVITIES FOR FY00

Introduction

The following portion of the FY00 Activity Report provides information highlights on program activities coordinated by IP and implemented by BLM employees from state offices and the national office. It is broken into the five activity areas:

- Technical and scientific exchange activities dealing with wildland fire management issues;
- Technical support to international wildland fire training, assessment, prevention/education, and mitigation programs;
- Technical support to the U.S. Government international disaster response activities;
- Meetings and conferences
- Other international activities

More information on many of these activities is available through International Programs or on the National Office of Fire and Aviation's webpage at:

http://web.blm.gov/internal/fire/intntl/index.htm

I. Technical and Scientific Exchange Activities Dealing with Wildland Fire Management Issues.

CANADA

Informal Discussions

Discussion: Although no formal exchanges occurred during FY00, the Office of Fire and Aviation continued to have informal discussions with Canadian counterparts as a part of the North American Forestry Commission's Fire Management Study Group. (See page 23)

Recommendations/Follow Up: Canada is still viewed as one of the prime countries for exchanges. Canada's innovative uses of technology and adaptations of U.S. systems and equipment bear further analysis. IP will continue to work with state offices and other programs within the national office to identify and encourage exchanges with Canada**.**

MEXICO

Discussions on FY00 BLM -Mexico Exchange Program - U.S. to Mexico

Discussion: National Director of Fire and Aviation Les Rosenkrance, International Program

Coordinator Tom Frey and International Program Assistant Connie Lewis traveled to Mexico City, Mexico November 30 - December 3, 1999. The objectives for the travel to Mexico were as follows:

- To attend a planning session with the USAID Mission Director for Mexico, officials from the Secretariat for Environment, Natural Resources and Fisheries for Mexico (SEMARNAP), and with the U.S. Forest Service to identify the types of projects to be carried out by BLM in FY2000 under a Memorandum of Understanding between SEMARNAP and USAID which created the "Mexico National Fires Prevention and Restoration Program." Under this MOU, a grant agreement was developed that, among other aspects, created a multi year joint training program between the U.S. Forest Service and Mexico. The training program covers all areas of wildland fire management. The oversight for this program is provided by the Forest Service. The Forest Service requested BLM to take the lead in certain areas of the program involving telecommunications, fire cache management, emergency contracting and technical assistance.

- To discuss and initiate a written plan for exchange activities for FY2000 between SEMARNAP and BLM. This ongoing program involved five exchanges in FY1999.

- To discuss with SEMARNAP the progress they have made on implementing, on the Mexican side, the U.S./Mexico cross-border fire suppression agreement.

Recommendations/Follow up: The discussions lead to a tentative list of potential exchange activities between SEMARNAP and BLM for FY00 as well as a list of those matrix activities which may involve BLM.

k **Observation/Evaluation of SRV Training - Mexico to U.S.**

Discussion: Two SEMARNAP fire officials, Joel Zavala, Coordinator for forest fires in the Federal District of Mexico City and Jose Rodriguez, Director of forest fire prevention in Mexico, came to the U.S., June 4-10, 2000, under the SEMARNAP-BLM exchange program. The purpose of the exchange was to observe how BLM identifies, organizes, trains, tests, and equips the Snake River Valley (SRV) crews. The two officials traveled to Vale, Oregon where they observed SRV crew training first hand, including participation in the one-week field training session. Because of their backgrounds in fire suppression and fire training, the Mexicans were asked to assist during portions of the training. This activity was a follow up to a similar exchange which occurred in 1999.

Recommendations/Follow Up: In the closeout with the Mexican officials they said they were very impressed with the SRV crew training. They also said they were pleased that they could assist with the training. They suggested that next year they might be able to send a larger group to observe and assist with the training. The Vale fire management staff was very complimentary of the two Mexicans and said they had been an asset to the training. Both the Vale staff and the Mexican officials felt that this exchange should continue. The Vale staff concurred with the Mexican's recommendation of continuing the exchange with a possible increase in participation from Mexico.

RUSSIA

k Cheat Grass Study - U.S. to Russia

Discussion: A team of three Bureaus of Land Management employees, Dr. Bob Clark, Program Director of the Joint Fire Science Program, Mike Pellant, rangeland ecologist from the Idaho State Office, and Robert Mitchell, soil scientist from the Miles City, Montana Field Office traveled to Russia August 6-20, 2000. The purpose of the visit was to determine why cheatgrass (*Bromus tectorum*), an annual grass native to southern Russia, is a serious invasive weed and wildland fire problem in the western U.S. but not in Russia. Understanding this situation is critical; in at least half of the fires burning in the West in 2000, cheatgrass is a major contributor to fire spread. The team was invited and hosted by Avialesookhrana, the Russian Aerial Forest Protection Service, with support from Dr. Eduard Davidenko. In turn, Avialesookhrana made arrangements for the teams site visits with the Russian Forest Service which manages the public lands. Russia does not have an administrative equivalent of the Bureau of Land Management. Rather, the Russian Forest Service manages dryland forests and the steppe.

The team's primary Russian Forest Service hosts were Valery Yurchenko and Alexander Karavaev, the Forest Director and Principal Deputy of the forests in the Volgograd Region, and Viktor Jvannikov and Boris Khulhachiev, the Forest Director and Principal Deputy of the Kalmykia Region. The team was also accompanied at various times and stops by local forest employees and specialists in both Regions. In particular, Taisia Ostray, a scientist from the Volgograd Regional Office was especially helpful with plants in that Region, and Professor Raisia Dshapova, a botany professor from the University in Elista, helped with plant and soil identification in the Kalmykia Region. In the Volgograd Region, the team traveled in a generally east-west direction, primarily between the Don and Volga Rivers (blackland, gray desert, and sandy soils) but also ventured eastward to Lake Elton and the surrounding areas which included saline soils and plant communities typical of salt desert shrub lands in the western U.S. In the Kalmykia Region they traveled generally south and east from Elista, to the shore of the Caspian Sea. The forests in the Kalmykia Region have harsh climates similar to those of the Interior West of the U.S. In addition to adding to the teams understanding of the cheatgrass problem, they discovered remarkable progress in land stabilization and reclamation in areas reputed to be subject to widespread desertification. The Kalmykia Region was ordered to dramatically increase livestock production in the 1980s and early 1990s which led to overgrazing, widespread wind erosion, and initiation of the desertification problem. The Kalmyks have since reduced grazing pressure and are in the process of stabilizing/rehabilitating the land. In addition to summer precipitation and very diverse plant communities in southern Russia, neither of which occurs in the Intermountain West of the U.S. and both of which tend to constrain cheatgrass, the team believes that soil nitrogen may be important in the establishment and spread of cheatgrass.

Recommendations and Follow up: The team recommended a follow up cheatgrass study building on what they had learned during the 2000 and the 1999 cheatgrass study in Russia. But the team tempered the recommendation by saying that unless they could identify and gain access to suitable cheatgrass sites,

bring the proper test equipment with them, have adequate time in the field to conduct tests and sampling, and be allowed to bring samples back to the U.S. for further study, a follow up trip would not be useful. IP will work with its Russian counterparts to determine the feasibility of a follow up under those conditions.

k **Russian Study of U.S. Fire Management Systems - Russia to U.S.**

Discussion: Four Russian fire managers arrived in Boise on July 9 as a part of the exchange program with Russia for 2000. There were two objectives for the Russian exchange. Two Russians were here to observe and study BLM's prescribed fire program, the interagency fire coordination system, and how large fires are managed in the U.S. Priorities and locations for the study were to be determined by burning conditions and fire activity. The other two Russians were here to observe and study BLM and interagency helicopter/helitack suppression techniques and operational procedures.

The Russians spent four days at NIFC where they learned about BLM's fire and aviation program, the mission of NIFC, and the Incident Command System. They also received a tour of the NIFC facilities.

The two Russian visitors, interested in large fire management, were Alexander Alkhimchikov, a fire manager for the Russian Forest Service and Vladimir Drobokhin, a smokejumper, from the Russian Aerial Forest Protection Service (Avialesookhrana). They were able to visit two fires, the Cherry Fire in Nevada, and the Clear Creek Fire in Salmon, Idaho where they shadowed a Type II Incident Management Team on the Cherry Fire and a Type I Incident Management Team on the Clear Creek Fire. They wanted to observe how resources are organized and managed on an incident, and to compare and contrast what they observed with the systems used in Russia. The initial briefings they received in Boise proved invaluable when they actually arrived on the incidents and observed ICS in operation.

At the Cherry Fire they participated in planning meetings and IC briefings and were given personal extended briefings on all aspects of fire camp operations. They were also able to fly along on two reconnaissance flights over the fire. They watched engine crews in action and observed operations at two remote helispots. The Russians were especially interested in meeting Native American fire fighters, so a squad of the Fort Apache Hot Shots met with the visitors at their spike camp to discuss fire fighting over lunch. They were also taken to the Ely Field Office. While in Ely, they took a side trip to the Nevada Department of Forestry Prison Camp. This particular camp trains and sends its inmates to work on fire crews in Nevada. The Russians were granted special permission to enter the camp and speak with some of the prisoners.

The Russians then drove to Salmon, Idaho to observe Joe Carevelho's Type I team which was assigned to the Clear Creek Fire. Three other Russian visitors hosted by the Forest Service's Salmon Office joined Alexander and Vladimir. The five Russians set up camp in Cobalt and shadowed Carevelho's team. They drove to various locations involved with the fire including the retardant base, various spike camps, and the main helibase. They were also able to ride along on a reconnaissance helicopter flight over the fire.

The Russians were especially interested in the size and resources available at both fire camps. They said that a fire camp in Russia would never be as elaborate. Vladimir explained that the lack of roads in Russia

often precludes transporting people, supplies and equipment to fires by means of trucks, which is the common practice in the United States. As a result they rely on helicopters as the primary means for transporting people and supplies. They said the highlight of the trip was the opportunity to observe all levels of fire operations from the national level, to the field office level, and actual field fire team operations. Alexander and Vladimir departed Boise on July 27.
The other two Russians Sergey Federov, a pilot observer from the Tomsk Aerial Fire Center and Yuriy Strodnykh, a fire and aviation manager from Ural Aerial Fire Center in Ekaterinburg traveled to Miles City, Montana where they were hosted by the Miles City Field Office. They were able to observe helicopter operations and helitack procedures first-hand while in the Miles City area. Due to an increasing fire load in the Miles City area and language proficiency issues, they returned to Boise a few days earlier than scheduled. They appreciated what they were able to observe but wished they could have been more involved in helitack operations. They departed Boise on August 3.

Recommendations/Follow up: The Russians felt like their opportunity to observe U.S. operations at all levels was very positive. They were especially impressed with the "NIFC concept" and thought that the ideas of a National Interagency Mobilization Guide and graduated decision making authorities for coordination and allocation of resources were concepts that Russia would be wise to look at. They did feel that there was too much of an emphasis on small helicopters that led to inefficiencies of scale. They also felt that the use of buckets on the smaller helicopters was an inefficient use of that resource. They would like to continue the exchanges and hope that one of the future exchanges might take a closer look at the prescribed fire program, which for a variety of reasons, was not a part of this year's exchange activity.

NORWAY

k Norwegian Emergency Management Official - U.S. to Norway

Discussion: As a continuing part of the exchange program, Dave Vickery of BLM's National Office of Fire and Aviation in Boise, Idaho visited Norway June 13-24, 2000. The host agency was the Directorate for Fire and Explosion Prevention (DBE) which is under the Ministry of Local Government and Regional Development within the national government of Norway. Additional hosts in the country were the fire organizations in the Municipality of Skien in Telemark County, and Gjøvik in Oppland County.

The purpose of the exchange was to provide to Dave an initial review of the municipal fire operations in two of the key regions affected by wildland fire. In contrast with the United States, responding to wildland fire is the responsibility of Norway's municipal fire organizations. In addition, Dave was given the opportunity to meet with and discuss wildland fire operations with municipal planners, county governors, civil defense officers, national mapping officials, and national telecommunications experts who are implementing a new radio communications system. The exchange also included meetings with university researchers, the head of Skogbrand (a private national insurance company for timber and forest lands), as well as with the top leadership of DBE.

County government in Norway can best be compared with the state government level in the United States. There are 18 county governors appointed by the Norwegian king, and each is responsible for administration of the national laws in the county. Municipal governments have significant latitude in governing, but must operate under national laws. DBE, the host agency, is the central government authority in the field of onshore fires (including wildland fire) and explosion prevention in Norway. All of the people of Norway who had any part in hosting this visit expressed a keen interest in BLM and the U.S. wildland fire program.

Recommendations/Follow up: This exchange visit served to strengthen the ties between the national and regional levels of the Norwegian wildland fire organizations and BLM. It opened the door for additional topics that will serve both BLM and Norway fire organizations in the job of managing wildland fire and land management. It is clear that with the advent of new technology in communications and more open borders throughout the world, wildland fire agencies have new opportunities to learn from each other. The organizations in Norway are struggling with, and developing many of the same kinds of programs that BLM is working on. These include GIS applied to wildland fire, implementation of new radio systems, looking at the use of satellite technology, and obtaining training and experience in dealing with wildland fires. BLM can use this type of international exchange program to look beyond its boundaries, and to be able to learn from and about the work being done in Norway and other countries.

k **Norwegian Emergency Management Official - Norway to U.S.**

Discussion: As part of an ongoing BLM exchange program with Norway, a Norwegian emergency management official, Mr. Arni Espedalen, spent three weeks in the U.S., August 14 - September 3, 2000, studying the Incident Command System.

Mr. Espedalan arrived in Boise when the 2000 fire season was peaking in the Eastern Great Basin and the Northern Rockies and he immediately had the opportunity to see firsthand, the interagency fire management coordination system at a Preparedness Level 5. Along with attending morning fire briefings and National MAC Group meetings, he received general briefings on how the interagency system works from the coordination side and the operational (ICS) side. This helped enhance and clarify what he was observing. He also received a tour of the NIFC facilities. During his time in Boise, the second wave of Australian fire managers arrived at Boise to assist with U.S. fire suppression efforts. Arni sat in on the briefings that the Australians received prior to their dispatch to fires.

Arni spent four days on two different fires, the Burgdorf Junction Fire near McCall, Idaho and the Clear Creek Fire near Salmon, Idaho. On both fires, he had the opportunity to attend planning meetings, receive briefings from incident management team members and observe fire camp operations. He also observed how military troops were being utilized on the fires.

The Oregon State Office hosted Arni for the last portion of his visit. In Portland he was able to observe the Northwest MAC Group and receive a briefing on the operations conducted at the Northwest Coordination Center. He then traveled to Redmond where he received briefings and a tour of the

Redmond Air Center. On his last day in Portland, he was able to visit a city fire station and the Portland 911 Center.

Recommendations/Follow up: Arni was very impressed with all that he saw and heard about BLM, the interagency wildland fire coordination system and the incident management system. He said that Norway is eager to gain more experience in dealing with wildland fires and this trip provided excellent information and ideas which he would take back to Norway. He said that these exchanges are very worthwhile and he would suggest that they continue in the future.

II. Technical Support to International Wildland Fire Training, Assessment, Prevention/Education, and Mitigation Programs

k U.S. Forest Service International Programs - Mexico

As an outcome of the 1998 wildfire season in Mexico, a Memorandum of Understanding was signed between the Government of Mexico's environmental agency (SEMARNAP), and USAID creating the "Mexico National Fires Prevention and Restoration Program." Under this MOU, a grant agreement was developed that, among other aspects, creates a multi year joint training/exchange program between the U.S. Forest Service and Mexico. The training program covers wildland fire management, aviation, communication, warehousing, fire prevention, and fire rehabilitation.

The oversight for this program is provided by the Forest Service's International Programs Office and the San Bernardino National Forest. The Forest Service requested BLM to take the lead on certain portions of the program involving telecommunications, fire cache management, emergency contracting and technical assistance in the use of imaging satellites. BLM involvement in this activity was discussed at the December 1999 meeting in Mexico City attended by Les Rosenkrance, Tom Frey and Connie Lewis (see page 5 **Discussions on FY00 BLM -Mexico Exchange Program - U.S. to Mexico**).

During FY2000 the National Office staff provided advice to SEMARNAP concerning equipment specifications, implementation issues and service and maintenance requirements for a remote automatic weather station program which SEMARNAP was planning on starting in 2000.

There was also a positive follow up to a FY99 training activity. In 1999, a Mexican who participated in the telecommunications training at NIFC, came to the U.S. with another SEMARNAP employee, at the request of the U.S. to assist with fire fighting efforts. The two Mexican nationals filled support positions at the Rocky Mountain Cache in Denver, Colorado. This was the first time that Mexican nationals have ever been requested as individual resources. Their ability to successfully perform in their support roles was a result of this training program and may be an example for future cooperation and exchange of resources with Mexico during extreme fire seasons.

k U.S. Forest Service International Programs - Indonesia, Russia, and Brazil

IP continues to work closely with the U.S. Forest Service's International Program in support of Forest Service (USAID funded) activities in several countries.

> **Indonesia:** The U.S. Forest Service's International Programs, requested the assistance of the Bureau in carrying out a fire management project in Indonesia. The fire management project was a part of the U.S. Agency for International Development's (USAID) Indonesian portfolio of activities. USAID asked the Forest Service to manage this project and the Forest Service in turn requested assistance from BLM for employees with the appropriate skills and background to carry out portions of the project. Jim Veitch, Alaska Fire Service smokejumper, expressed an interest in assisting with this project and was selected.

Jim's assignment was June 26 - July 21, 2000. He assisted in facilitating a workshop at the province level in East Kalimantan (Borneo), Indonesia. The purpose of the workshop was to bring together provincial level governmental agencies and private companies that were responsible for and could contribute to wildland fire suppression efforts. The specific objectives were to:

- Identify available fire suppression capabilities and resources;
- Develop procedures to deploy these resources;
- Develop working agreements which identify specific responsibilities of each agency/company in the event of a wildland fire.

Russia: Tom Frey and Connie Lewis attended a meeting in Portland, Oregon, February 23 and 24, 2000, with the Forest Service, the World Wildlife Fund and the World Bank. The purpose of the meeting was to exchange information on the various activities each group was involved within Russia and to identify areas of coordination and cooperation. Tom and Connie presented a list of BLM National Office of Fire and Aviation exchange activities planned for 2000. They discussed possible opportunities to participate with the Forest Service in joint meetings with Russian fire management counterparts. They also agreed to explore potential BLM support to Forest Service-funded activities during 2000.

Brazil: BLM collaborated with the Forest Service, in hosting a delegation of three Brazilian government officials at the National Interagency Fire Center (NIFC) in Boise, Idaho, during the week of September 26, 1999. The Brazilian officials were members of Brazil's National Wildfire Coordinating Office. At the conclusion of the visit, discussions were held to identify those systems, agreements and methods observed by the delegation that might be tailored to meet requirements in the Brazilian intergovernmental system. One recommendation was to develop a workshop that could be used to introduce the concepts observed in the U.S., to senior officials in Brazilian agencies tasked with coordinating and managing wildland fires. In response to this recommendation, IP in coordination with the Forest Service's International Program, developed a proposal for a three-day workshop in Brazil.

The goals of the workshop would be to bring together Brazilian governmental agencies and organizations that are responsible for wildland fire suppression efforts and to facilitate discussions among these officials on how to improve wildland fire management in Brazil. The U.S. facilitators would offer examples of wildland fire management methodologies, systems and agreements used in the U.S. These examples could be used as catalysts for discussion and possibly as templates within the Brazilian system.

The proposed products from this workshop would be:

- A list of wildland fire management responsibilities by agency/organization;
- A list of areas of duplication of authorities and responsibilities
- Draft working agreements which list authorities and identify specific responsibilities of each agency/organization in the event of a wildland fire;
- Recommendations, tied to the above working agreements, which when implemented,

would improve the operational coordination and response to wildland fires.

The proposal was positively received by the Brazilian Government but due to a severe fire season in 2000, IP and the Forest Service's International Program are still attempting to identify time frames to meet both their schedules as well as the Brazilian Government's schedule.

III. Technical Support to the U.S. Government for International Disaster Response Activities

k U.S. Forest Service - Disaster Assistance Support Program (DASP)

The U.S. Forest Service has a Disaster Assistance Support Program (DASP) in its International Program's Office. DASP provides emergency management technical support to the US Agency for International Development's Office of Foreign Disaster Assistance (OFDA). With program funding from OFDA, the Forest Service provides disaster prevention, preparedness, and response expertise to enhance the U.S. Government's capability to plan, coordinate, and respond to international disasters, and to improve the effectiveness of those response efforts.

In order to carry out its support to OFDA, DASP has set in place a reimbursable agreement with BLM's National Office of Fire and Aviation's International Program to access the capabilities within BLM to help meet support requirements for OFDA.

DASP has had a close working relationship with BLM for more than 15 years, requesting personnel and specialized supplies and equipment. DASP established a reimbursable account for up to $250,000 worth of BLM support in FY00. That entire amount was spent in support of DASP activities. The reimbursable established for FY01 is again $250,000.

Below is a listing of the support that BLM provided to OFDA through DASP in Fiscal Year 2000. Most assignments involved working with OFDA's Logistics Office in Washington, D.C. One assignment involved support to a *lessons learned* workshop in Kosovo in February of 2000. The support that BLM employees provided in FY 1999 to OFDA through DASP underscored the valuable contribution made by BLM to the U.S. Government's international disaster relief effort.

Kosovo DART Lessons Learned Meeting - February 2000: Tom Frey, National Office of Fire and Aviation International Program Coordinator, traveled to Pristina, Kosovo February 14-22, 2000, at the request of DASP, to assist with the facilitation of a *lessons learned* meeting for the U.S. Agency for International Development's (USAID) Office of Foreign Disaster Assistance (OFDA). OFDA has had a field team, called a Disaster Assistance Response Team (DART) deployed in Kosovo to coordinate the U.S. Government's relief efforts in Kosovo.

OFDA's DART has been deployed in Kosovo for more than 14 months. The DART actually had

several deployment phases. It was initially in Kosovo providing humanitarian coordination before the war. As the war became more certain and as security for DART members became more uncertain, the DART members evacuated to Macedonia. In Macedonia, when the war started, the DART quickly became involved in coordinating U.S. relief efforts for Kosovo refugees driven into Macedonia by the Serbs. After the end of the war, the DART returned to Kosovo to support the return of the refugees from camps in Albania and Macedonia. The emphasis of DART work during this phase was on providing emergency shelter during the winter months.

The purpose of the meeting was to identify, from the field perspective, the lessons learned from the activities associated with the DART deployed in Kosovo, and to make recommendations on how to improve future DART operations. DARTs and incident management teams share many of the same types of duties and responsibilities and have many of the same issues such as communications, safety/security, team organization and team interaction.

The lessons learned and the recommendations from this meeting were incorporated into a larger *lessons learned* meeting held in Washington, D.C. in late July 2000. Tom assisted in the facilitation of that meeting as well.

To learn more about DARTs, the response to Kosovo, and the work of OFDA on other disasters throughout the world, go to:

www:info.usaid.gov/hum_response/ofda/index.html

BLM Employees Who Served on Details in Support of OFDA in Washington, D.C.:

- Kent Hamilton - Boise Smokejumper
- Jason Hofman - Boise Smokejumper
- Jay Wattenbarger - Alaska Fire Service
- Bill Laspina - Boise Great Basin Support Group
- George Battaglia - Alaska Fire Service
- Bob Means - Elko, Nevada Field Office
- Allen Edmonds - Miles City Field Office
- Eva Brown - Alaska Fire Service
- Dave Fauss - Coos Bay, Oregon District Office
- Earle Smith - Roswell, New Mexico Field Office
- Tom Frey - National Office

DART Training: IP also worked with DASP to train Forest Service and BLM employees for potential overseas disaster relief assignments. IP assisted in the preparation and presentation of three Disaster Assistance Response Team (DART) training/orientation sessions during 2000.

DARTs are ICS-based, multi disciplined teams which are sent out by OFDA to disaster sites to coordinate the U.S. Government's international relief efforts. The DART training helps prepare individuals to work in support of OFDA in Washington, D.C. and on international assignments. The training covered the purpose and structure of organizations and offices that the participants

may encounter on these assignments; personal preparation, health, and safety issues; cultural awareness and sensitivity in the foreign environment; how OFDA works operationally; and the structure and organization of a DART. Although the training is geared for assignments with OFDA, much of the material covered served as an excellent base for anyone traveling on an international assignment.

Fifteen BLM employees took the courses which were held in San Diego in March, Denver in April, and Washington, D.C. in May. The participants were:

Bill Wallis	Colorado State Office
Debra Bowen	National Interagency Coordination Center
Tim Blake	National Interagency Coordination Center
Sheila Barry	National Interagency Coordination Center
Randy Hart	Eastern Great Basin Coordination Center
Lindsey Lien	Alaska Fire Service
Mary Lynch	Alaska Fire Service
Don Ferguson	Medford, Oregon District
Marc Pointel	Tonopah, Nevada Field Office
Martin Lew	Medford, Oregon District
Rawles Williams	Las Vegas, Nevada District
Rob McWhorter	Alaska, Joint Pipeline Office
Terry Hueth	Oregon State Office
Bill Casey	National Office of Fire and Aviation
Terry Lewis	Eastern States Office

Support to OFDA from the Great Basin Cache: The Great Basin Cache has supported and improved OFDA's ability to respond to international disasters over the past several years by providing input into the design and contents and then assembling and storing "Individual Support Kits" that OFDA issues to disaster responders who may need to be self sufficient for up to 72 hours in a foreign disaster environment. The cache also has assembled and shipped to OFDA, "Office Supply Kits," which provide disaster responders with enough office supplies to initially establish office operations at a remote disaster site. Another important service that the cache is providing OFDA is storage space (four pallets) for approximately 4,000 copies of the ***Field Operations Guide for Disaster Assessment and Response*** used by OFDA and numerous international disaster responders on field assignments.

IV. International Meetings and Conferences

k Sydney, Australia - Wildland Fire Safety Summit

Discussion: Sandy Guches, National Fire Safety and Occupational Health Specialist and Bill Wallis,

Colorado State Fire Management Officer traveled to Sydney, Australia October 30 - November 8, 1999 to attend the International Wildland Fire Safety Summit. The objectives of the trip were to learn about international research on wildland fire safety and to discuss common issues related to wildland fire safety. The summit is sponsored annually by the International Association of Wildland Fire (IAWF).

"SAFENET '99 – A Pilot Program for Firefighter Safety"
At the conference Sandy delivered a paper entitled "SAFENET '99 – A Pilot Program for Firefighter Safety." Her paper described SAFENET as the process that allows ground firefighters to report unsafe situations in fire operations. It also discussed how SAFENET is intended to provide an additional means for initiating and documenting corrective action of these unsafe situations. The paper initiated discussions among the participants from Australia, Canada, and New Zealand. The SAFENET presentation grew out of the interagency SAFE Initiative and there was subsequent discussion of the Wildland Firefighter Safety Awareness Study, Phase III. A copy of the SAFENET paper was included in the conference proceedings document.

The summit program included a wide variety of subject areas. Some topics included were:

- The Dead-Man Zone Community FireGuard
- Operational Mapping Fire Risk Management Planning
- Role of Aircraft Sprinklers for Wildfire Protection
- When is Enough Enough? Operation Bushfire Blitz
- Wildland Fire Assessments - Vehicle Entrapment Spray Protection Systems

The summit proceedings provided an in depth look at these, and other, subjects.

After the conference, Sandy had the opportunity to meet with safety managers from the Natural Resources and Environment Agency in Melbourne, Victoria to discuss and share information on injury investigations and reporting.

The following comments are from Sandy Guches' report:

> Presentations at the conference that I found particularly interesting were those relating to sprinkler systems for engines, and educating the public on prevention and bush firefighting. Australians do not support the use of fire shelters, but do encourage firefighters to stay with engines during entrapments. Significant research has been done on the configuration of the engine cabs and the materials used for construction. Richard Donarski with New South Wales Rural Fire Service apparently is a key player in this Australian research. In addition, much attention is being paid to the use of sprinkler systems for protecting engines and their occupants.
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> A presentation entitled "Bushfire Blitz" was especially interesting. "Bushfire Blitz" was a concentrated effort in New South Wales to meet, literally on the street corner, with the public and volunteers. The evening corner meetings were intended to inform and educate and apparently had great success. The "Bushfire Blitz" information will be shared with the BLM National Fire Prevention Program.

Victoria Natural Resources and Environment (NRE), Melbourne - November 8, 1999

On November 8, I had the opportunity to meet in Melbourne with Sue Ellis, Health and Fitness Coordinator Natural Resources and Environment, Fire Management, Adrian Quintarelli, Coordinator Occupational Health and Safety Natural Resources and Environment, and Jeff Green, Manager Occupational Health and Safety, Country Fire Authority (CFA), Victoria. Topics of discussion were primarily fire-related injury reporting processes, serious accident investigations, and Phase III of the Wildland Firefighter Safety Awareness Study. Adrian demonstrated use of the NRE injury database and electronic reporting system. NRE is just getting their system operational. I shared with the group information on the DOI Safety Management Information System, and the modifications made to the system for fire-related injuries. I was able to log onto SMIS via the Internet, and demonstrate the reporting system, including pull down menus etc. Adrian was particularly interested in the management system failure menu items.

Sue Ellis shared an "injury report card" that is used for initial reporting of fire-related injuries. The 4x6 cards offer a quick "fill in the blanks" for bush firefighters that are injured on the line. The cards are used by NRE as documentation for reporting and data collecting, and are intended to provide firefighters with a simple means of documentation.

Jeff Green had questions regarding the Wildland Firefighter Safety Awareness Study, and I provided him (as well as Sue and Adrian) a copy of Phase III. CFA is beginning to look at the need for cultural change in order to prevent serious injuries and fatalities. We discussed at length, the ongoing efforts in cultural change since Phase III was completed. Jeff was very interested in the study, and in the SAFE Initiative. He wants to stay connected to our efforts and we intend to do so via e-mail. I invited Jeff to come to Boise and meet with us to share information and resources to the extent possible.

In Victoria, all fatality investigations are the responsibility of the coroner. The coroner apparently has enormous power in this arena, and internal investigations are typically not conducted. The coroner's role extends beyond what we are used to in the States. In Victoria, the coroner conducts the full investigation, including witness interviews and evidence gathering. The coroner's role is not limited to cause of death and autopsy. Thus, investigations are managed from outside NRE and CFA and coroner investigation results are apparently readily accepted by NRE. Accidents that are less than serious may call for internal investigation by the NRE.

"Wildland Fire Assessments, Linking Strategy to Tactics"

Bill Wallis, BLM Colorado State Fire Management Officer also presented a paper at the Third International Wildland Fire Safety Summit in Sydney, Australia. The paper titled *Wildland Fire Assessments, Linking Strategy to Tactics*, was presented in coordination with Mike daLuz, USFS

Operations Branch Director in the Rocky Mountain Region and Russ Johnson, retired Fire Staff Officer from the San Bernardino National Forest. Mike also gave a second paper which detailed the South Canyon Fire incident. The presenters were able to link the two papers by discussing what would be done differently with current policy and fire management plans. In their presentation they described in detail the BLM phase one and two fire planning process.

The audience was interested in the potential applicability of the process in Australian settings. They explained the simplicity of the process and spent time outside of the formal presentation working with interested people. They also made a similar presentation to a group of GIS specialists who were interested in how the assessments were built.

Many of the papers presented at the conference were specific to Australian issues, but a few were very interesting and have potential applicability in the US. Of special interest were those which discussed management of the urban interface. Bill was especially interested in a talk named *Operation Bushfire Blitz - Taking it to the Streets* which discussed a very effective method of working with interface communities.

Bill had a chance to look at some of the fuels the Australians must contend with. He said it is similar to a fuel model 4 or possibly a 10 containing a high percentage of eucalyptus trees, which in his opinion amounted to a very volatile and dangerous situation. Bill was also able to spend some time outside of Sydney, traveling along the east coast of Australia. He observed that prescribed fire is used very frequently in a large portion of coastal forests which seem similar to forests of the southeastern US as well as in agricultural burning. He said that the general public seemed to readily accept the prescribed fire program.

Recommendations/Follow up: New South Wales is interested in exchanges, particularly for sharing training resources and skills. Shane Fitzsimmons, Assistant Commissioner Operations, New South Wales Rural Fire Service, is especially interested in finding a way to partner with BLM. In addition, New South Wales has an interest in the progress BLM makes in the SAFE Initiative. A partnering with the NRE and CFA to exchange information on cultural change would be beneficial to all parties. CFA particularly, is just beginning to discuss cultural change and has a strong interest in the work being done here in the United States.

k **Germany - Fire Demonstration Project**

Discussion: Rex Alford, BLM Colorado State Office and Mike Rieser, Craig, Colorado BLM Field Office traveled to the University of Freiburg in Freiburg, Germany April 21-May 1, 2000. IP had received a request from Dr. Johann Goldammer, Director of the Global Fire Monitoring Center (GFMC) located at the University of Freiburg for BLM to make a presentation at the university to an international group of university students and fire managers interested in learning about fire management in the U.S. Rex and Mike provided an overview of basic fire training, fire planning, prescribed fire, and long range weather prediction to the participants. Their presentations were well received and provided a basis for discussions about applying fire management techniques used in the developed world in developing

countries.

Rex and Mike had an opportunity to visit the GFMC. The GFMC is a part of the Fire Ecology Research Group at the University. The primary interest of the GFMC is to provide a central point for information on global fire activity. Information on the GFMC program is available on the Internet at the following address. http://www.uni-freiburg.de/fireglobe
Another area of interest of the Fire Ecology Research Group and the GFMC is in the arena of international fire support. There is a perceived need by Dr. Goldammer and others, for an international group to provide support for developing countries and for countries with long fire return interval regimes that do not have standing fire suppression resource capabilities. The GFMC envisions developing an operational and technical support capability for these countries during periods of high fire activity when requested. During March of 2000, Dr. Goldammer joined a group of fire specialists from South Africa and the U.S., in Ethiopia to provide the Government of Ethiopia with advice during a severe drought induced fire season. Dr. Goldammer has suggested this effort as a model for future responses. There is some United Nations support for this concept.

On the last two days of their stay, Rex and Mike had the opportunity for field visits. On the first day they observed an area where prescribed fire was being reintroduced into Germany. On the second day, they toured restoration and recovery efforts in an area of the Black Forest that sustained a severe blow down event in December 1999.
The following notes are from their field visits:

> Fire has been banned in Germany since 1975. The rapid socioeconomic changes in post- World War II Europe enforced this development. New air quality standards were generated by the generally prevailing opinion of government administrations, the general public, and traditional nature conservation philosophies. These opinions were that fire would damage ecosystem stability and biodiversity. This led to fire bans in most European countries. In 1975, following the Federal German Nature Conservation Law, the State of Baden Württemberg imposed a ban of the free burning (broadcast burning) of vegetation.
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> On April 29 we viewed test plots where prescribed fire had been used on an experimental basis to clear terraced slopes in vineyards. Due to the constraints on burn windows the burns lacked intensity to achieve the percent mortality on hardwood species invading the terrace slopes. Several options were discussed to overcome burn window requirements and meet burn objectives. If these objectives can be met, the use of prescribed fire is currently being reconsidered for agricultural use in vineyards. We also observed the problems faced by German foresters in a Black Forest blowdown area. The primary issues were to mitigate insect infestation and decrease the potential of disease generated by downed timber. The foresters were also very interested in moving forest stands from single species patches to a general mixed and variable stand composition. One of the techniques used to reduce vector issues was to harvest and peel merchantable timber.

Recommendations/Follow up Actions: This activity raised the issue of what role the United

States wishes to play in international fire suppression efforts. Although BLM does not have the lead on the decisions as an organization, it may be requested to provide inputs into the discussions and at times be asked to provide employees and resources to such efforts. There are many issues associated with this potential activity including working with international partners on international assignments who have different skills, training, and competencies. IP will work with counterparts in the Forest Service and with the USAID Office of Foreign Disaster Assistance to provide inputs into these on going issues.

k Halifax, Nova Scotia Canada - INTERFACE 2000

Discussion: The Government of Canada's Canadian Interagency Forest Fire Center hosted the INTERFACE 2000 Conference in Halifax, Nova Scotia, Canada, May 6-11, 2000. The purpose of the conference was to bring together fire experts from around the world to share their expertise and experience for improving the way countries protect their communities from the impact of wildland fires. Viewing this as an opportunity to learn and share with others, the National Office of Fire and Aviation encouraged the attendance of a range of fire and resource managers. The National Office of Fire and Aviation had three representatives, Larry Hamilton, Jay Thietten, and Pat Durland. Interested in providing an opportunity for a field office team to attend such a conference, the National Office supported the attendance of Rick Belger, Upper Snake River District East Zone Fire Management Officer and Jim May, Manager, Upper Snake River District. Pat Kidder represented the California State Office. Lee Barkow represented NARSC.
The issues being discussed at the conference could not have been more timely because as the conference was taking place, the Cerro Grande (Los Alamos) Fire burned hundreds of homes in New Mexico. That fire became the focal point of discussions among participants from Canada, the U.S., Australia, and New Zealand as to the need to address this issue and recommend avenues of approach on an international basis. A number of participants identified their frustrations with the common place attitudes that only deal on the edges of the urban interface issue. Many felt that it is a solvable problem with the proper policies, programs, and incentives. They said it would involve cultural changes but they felt that this is doable overtime with planning and education programs. They also discussed a need to define local, regional, and national approaches to the issue and the need to define methods to define visible and measurable successes.

Rick Belger commented that the conference provided him a new perspective on how the insurance industry views the urban interface issue. He said that the conference helped him to validate that the fire community in the U.S. is more progressive than many countries and is headed in the right direction in fire planning and preparedness. For Rick, the conference highlighted the fact that fire knows no bounds at the local regional, national or international level and there is much we can share and learn from one another.

Recommendations/Follow up: Conferences like INTERFACE 2000, offer the opportunity to fire and resource managers to view their issues from a new perspective. They are able to hear and learn from other international partners who share the same types of issues and concerns and how they approach these issues. IP will continue to identify conferences such as INTERFACE 2000 which may support the efforts of managers to broaden their perspectives and possibly provide new solutions to

common international problems.

k Finland - BALTEX 2000

Discussion: Larry Hamilton, Director of the National Office Fire and Aviation and Tom Frey, International Program Coordinator for the National Office of Fire and Aviation attended an international wildland fire seminar called BALTEX 2000 (Baltic Exercise) in Kuopio, Finland June 5-9, 2000. The meeting was organized and hosted by the Finnish Ministry of the Interior and the Finnish Emergency Services College in cooperation with the Finnish Forest Research Institute, the Finnish Forest and Park Service, the University of Helsinki, the Finnish Meteorological Institute and the Global Fire Monitoring Center at the University of Freiburg, Germany.

The main objectives of the meeting were to:

- Clarify the use of fire in ecologically sound forest management;
- Present the impacts of forest fires on modern industrial society;
- Present new technologies and methods of forest fire management;
- Identify joint strategies for transboundary cooperation;
- Develop a process of information exchange and international fire research.

BLM's attendance at the meeting was requested through a relationship between BLM and the joint group of the U.N. Food and Agricultural Organization, the Economic Committee for Europe, and the International Labor Organization (UN/FAO/ECE/ILO). This organization is affiliated with the efforts of Global Fire Monitoring Center at the University of Freiburg to better understand global wildland fire issues and to identify and share methods to improve the management of wildland fires.
The largest number of participants at the meeting were from the Baltic region countries of Norway, Sweden, Finland, Russia, Estonia, Latvia, Lithuania, Poland, and Germany. Other participants came from Canada, Portugal, Belarus, the United Kingdom, and Namibia. Although the meeting focused mainly on fire management issues in boreal ecosystems, it presented an opportunity to observe, learn, and discuss how numerous other nations are dealing with similar fire management issues. Tom Frey made a presentation on wildland fire management issues in the U.S.

Larry and Tom found several presentations of particular interest. The first presentation was about forestry and wildland fires in Finland. Finland has a very small wildland fire problem so far. Larry and Tom were struck by the small number of fires and acres burned in continuous fuel types that during certain conditions, could easily burn with high intensity. They learned that the low fire occurrence and low number of acres burned is based on good systems of fire detection, a mainly flat topography with an extensive forest road system, well-organized suppression capabilities, natural water barriers and maybe the most important factor, weather conditions that are excellent for growing trees but hinder the ignition and spread of wildland fire.

The Finnish company VTT Automation, which provides remote sensing capability to the Government of Finland, presented a paper on "Forest Fire Detection by Satellites for Fire Control." Through the VTT Automation system, which uses NOAA AVHRR satellite data, the Finnish Government is able to detect forest fires in the beginning of the fire season when aerial detection is not available. The satellite system is

also used to detect fires in remote areas.

The United Kingdom representative provided information about the intensive prescribed fire program, on private lands in the Scottish Highlands, for habitat improvement of an important gamebird species. He said that the program has provided excellent opportunities to test a variety of fire swatters made of different materials. He also said that he is working closely with local volunteer fire brigades to develop an on scene incident management system for escaped fires and human caused fires based on the U.S. ICS system and on Canadian and Australian systems.

Another interesting topic was presented by a scientist from Norway. Although Norway presently does not have an intensive wildland fire management issue, the Norwegian government was still very interested in learning about the effects of fire on Norwegian ecosystems since the ice age. The Norwegians are interested in using this study as a way to establish a baseline for making informed decisions about the potential effects, both positive and negative of reintroducing fire into the ecosystems.

A field trip during the meeting was designed to allow the participants to observe the ignition of a prescribed fire for biodiversity purposes and an exhibition of Finnish suppression equipment. Due to several previous days of moist weather only spotty areas within the plot were sufficiently dry to burn. The ignition sources for the burn were handheld propane torches fueled by small tanks carried by several firefighters in a variety of off-the-shelf backpacks. Several hundred members of area structure volunteer fire brigades and Finnish Parks and Recreation staff assisted in the fire suppression exhibition. Finland is blessed with almost 200,000 lakes and uncountable other small water sources. The area around the prescribed fire was no exception. Large capacity pumps were set up in a nearby lake and a hose lay which initiated at the lake with a three to four inch hose and was reduced at the edge of the plot to about a one and one-half inch hose. A dozer line had been scraped around an outer perimeter of the plot and a wide swath of trees had been cut down between the dozer line and the burn plot.

Another part of the exhibition was a demonstration of aerial fire suppression techniques using water drops from helicopters with water buckets and single engine air tankers. The demonstration at times seemed a bit dysfunctional as people on the ground attempted to light the plot to get it to burn and then just as it was starting to build some intensity, the aerial show would douse it. Apparently the exhibition was more important than achieving burned hectares.

Personal protective equipment was spotty and seemed dependent somewhat on which organization or fire brigade a firefighter belonged to. Some firefighters had orange jump suits and some had modified turnout gear. It was not immediately obvious what materials were fire retardant. The few sawyers that were seen cutting and stacking fuel to improve burning conditions did not have chaps or goggles.

Another field trip on a very rainy and wet day was designed to highlight commercial peat production and harvesting and methods used to suppress peat fires. Peat is a bioenergy source for Finland which has no oil, gas or coal reserves. The burning of peat generates 6% of the electrical energy consumed in Finland and combined with heat generation, peat provides 20% of Finland's needs. Because of its importance as a natural resource, a fire in a peat production area is quickly suppressed to reduce the losses of this important resource. Larry and Tom watched a demonstration of how initial attack is carried out by peat

production workers and the system for calling out local fire brigades when more personnel and water are required. The ignition source for a peat fire can be the blade of plow striking a rock in the peat and causing a spark. To prevent initial spreading of peat fires, peat workers are always checking a Finnish fire index and looking at the wind speeds. Although peat fires have a low intensity during dry, windy conditions, the top layer of the peat provides an excellent source of fine fuels to quickly spread the fire, which then also continues to burn down into the dry layers of peat producing very hot and very difficult fires to put out.

Larry and Tom took the opportunity during this meeting to discuss ongoing BLM exchange programs with representatives from Russia, Norway and the Global Fire Monitoring Center. The Russian Federal Forest Service was undergoing reorganization and there was some uncertainty as to what would happen to the fire fighting staff. This uncertainty could affect the exchange program.

The last day of the conference included a half day meeting of UN/FAO/ECE/ILO's International Team of Specialists on Forest Fires to discuss further areas of potential cooperation. Dr. Johann Goldammer, from the Global Fire Monitoring Center at the University of Freiburg chaired the meeting. In March, he led a team of international fire specialists to Ethiopia where the team advised Government of Ethiopia officials on fire suppression strategies for large drought-induced fires in remote areas of the country. Dr. Goldammer used this experience as an example of how countries were able to use their expertise to support a developing country during a severe fire season. He proposed having governments offer support to a team of experts, possibly with fire suppression equipment, which could be "on call" for future international responses. Larry and Tom pointed out that although there are recognized needs in developing countries in wildland fire management, unlike an organization like the Global Fire Monitoring Center, which is non-governmental, most countries offer assistance bilaterally for a variety of geopolitical reasons. Tom and Larry sited the U.S. response to the fires in Indonesia in 1997 as an example. Larry and Tom expressed support for the efforts of Dr. Goldammer with the Global Fire Monitoring Center activities which provide valuable information on global fire activities and issues, but cautioned it would be very difficult politically, monetarily and operationally to develop a standby operational capability ready to deploy to international wildland fire hot spots. They suggested he may want to take a more staged approach to his desire to support countries suffering from overwhelming wildland fire problems by first identifying countries or organizations willing to participate in providing initial assessments and possibly technical advice to these countries. This would be quicker, more practical, more economical, and more realistic than trying to go operational immediately.

Recommendations/Follow up: BLM's participation at this conference and its continued involvement with the UN/FAO/ECE/ILO effort demonstrates BLM's progressive leadership in global fire management issues. At the conclusion of the meeting Dr. Goldammer informally invited Tom Frey to attend an international search and rescue meeting in Tunisia in September. The meeting would also cover the issue of international support to wildland fires. Tom said that the best representation to that meeting from the U.S. should be determined by USAID's Office of Foreign Disaster Assistance because that is the office that responds to international disasters.

k Northern Ireland -Shorts Bros. Aircraft Conference

Discussion: Ben Hinkle, Boise smokejumper standardization pilot, attended a conference for Shorts Bros. Aircraft Operators conference in Belfast, Northern Ireland June 17-22, 2000. Paul Markowitz (USFS) also attended the conference. This conference was held for companies and organizations currently operating Shorts aircraft (SD3 Shorts 360, 330 and Sherpa Aircraft) to gather information on operators needs as well as to identify future maintenance requirements. The Shorts Bros. aircraft were manufactured in Belfast and a great deal of the support for maintenance and spare parts come from the Shorts Bros. office in Belfast.
BLM currently has two Shorts Bros. aircraft while the Forest Service has five, all but one used for the smokejumpers and logistical support. The meeting was attended by 16 other Shorts Bros. operators from around the world wide, as well as a large number of vendors such a Pratt & Whitney (engine manufacturer), Hartzell (propeller manufacturer), and a wide variety of other suppliers of aircraft components and parts. The vendors made presentations on their products and support capabilities.

Shorts Bros., now a subsidiary of Bombardier Aerospace of Canada, began the conference by reviewing the company's history. As a result of buying the rights to manufacture the Wright Flyer (from the Wright brothers), Shorts Bros. claims to be the first aircraft producer in the world. While no longer manufacturing whole aircraft, Shorts continues to manufacture spare parts and to provide engineering support for Shorts aircraft.

During the conference many operators expressed concerns about mandated inspections, costs of spare parts and overall support by Shorts and Bombardier Aerospace. All operators were given opportunities to ask questions and seek information. Working groups were formed for specific areas such as maintenance database tracking, parts support, and other pertinent issues. From the maintenance side, all the operators expressed concern over more frequent than necessary aircraft inspections on low utilized aircraft. The original inspection programs were for high flight time airlines and now that most of the Shorts fleet is in the freight business where flights are usually limited to once in the morning and once at night most operators felt the inspection times can be spread out. This change could affect BLM and Forest Service schedules, especially during the fire season.

Ben received important information from the Shorts training department and from several other Shorts operators including information on standard operations procedures. Ben said that he felt that based on company information and discussions with operators, BLM and the Forest Service were moving in the right direction on the Interagency Sherpa Program. Also, Shorts expressed an interest in providing recurrent training support for BLM and Forest Service annual training for the Shorts Sherpa aircraft. They also expressed a desire to help provide crew-training manuals for BLM and Forest Service needs as well.

Recommendation/Follow up: Ben was able to obtain useful information on the Sherpa aircraft used by BLM which can increase the safety and efficiency of these aircraft.

k United States - North American Forestry Commission's Fire Management Study Group

Discussion: Lynn Findley, Acting Deputy Director for the Office of Fire and Aviation attended the annual North American Forestry Commission's Fire Management Study Group meeting which was held in Hilo, Hawaii September 26-28. The Fire Management Study Group involves the U.S. which is represented by the Forest Service and BLM, Canada represented by the Canadian Interagency Forest Fire Center (CIFFC), and Mexico represented by the Secretariat for the Environment, Natural Resources, and Fisheries (SEMARNAP). Issues discussed included the 2000 fire season in the U.S. that saw Canada and Mexico providing assistance to the U.S. effort; research activities in Mexico which included some U.S. funding; and discussions about the potential for an international fire conference in the next two to three years. Australia and China have indicated the possibility that they may be interested in hosting such a meeting.

Recommendations/Follow up: The Fire Management Study Group, which has been meeting for many years, represents an important international forum where issues of fire management issues of common interest to the three countries can be discussed. As the 2000 fire season proved, the borders between the U.S., Canada, and Mexico are becoming more transparent and the need to coordinate, cooperate and share resources will only increase in the future. The Fire Management Study Group will continue to be the focal point for discussion of this and other emerging issues.

V. Other International Issues

k Wildfire Protection Agreement Between the U.S. and Mexico

The International Program continues to coordinate with the Forest Service and the National Park Service on completing a national level operating plan for the wildfire protection agreement between the U.S. and Mexico which was signed in 1999. This plan will eventually be included in the National Interagency Mobilization Guide. Local operating plans will be developed which mirror the national plan but are more specific to the local operational requirements.

k Australia and New Zealand Agreements

Following up on the unprecedented use of Australian and New Zealand fire fighters during the 2000 fire season, IP working with the National Interagency Coordination Center has drafted language for a formal agreement for sharing fire management resources among the countries. The NICC Coordinator is soliciting comments from the fire directors at NIFC that compose the National MAC Group. IP has made initial contacts with the State Department to discuss the process and procedures that are required to insure compliance with and concurrence of the State Department.

k Hosting of Delegations and Visitors

IP hosted and briefed international delegations and visitors this year. These are in addition to the exchange program. Delegations and visitors came from around the world.

Australia: Two Australians came separately to Boise. Mark Thomason, a Regional Commander with the South Australian Country Fire Service came to the U.S. on a Winston Churchill Fellowship to learn more about ICS and wildand fire interagency coordination. NIFC was one stop on his U.S. tour. He received briefings about the U.S. system and toured the facilities at NIFC. Paul Macmichael, a training officer with the New South Wales Rural Fire Service came to NIFC as part of an international trip which included attending the International Association of Wildland Fire Safety Summit in Canada. He spent two days at NIFC learning about wildland fire training development and course content as well as taking the tour of the NIFC facilities.

Israel: Four Israelis came to NIFC in September through the Forest Service, to learn about the interagency wildland fire management system being used for the intense 2000 fire season 2000 and to determine if there were areas where Israel could offer assistance. IP provided a briefing on the U.S. system and a tour of the Boise foothills which covered the urban interface fire problem as well as ecosystem rehabilitation and restoration issues.

Korea: In 2000, Korea suffered some of its worst wildland fires in decades. Many of the most severe fires were in urban interface areas which resulted in the deaths of several people. In order to improve the country's capabilities to manage wildland fires, 32 Koreans came to the U.S. to study how the interagency wildland fire management system works in the U.S. At NIFC the group was briefed on the U.S. system and took a tour of the facilities. They were also very interested in learning more about how the U.S. equips firefighters. Besides their NIFC stop, the group visited the Boise National Forest and toured Yellowstone National Park to learn about the fires of 1988 and the effects of the fires on the ecosystem to date.

Spain: Ms. Montserrat Candini, an agricultural official from the Spanish Province of Catalonia came to NIFC to learn more about the U.S. interagency wildland fire management system. Catalonia has suffered several devastating forest fires in recent years that have affected the local economics which is based on agriculture and tourism. Ms. Candini was very interested in how the multi agency coordination system works in the U.S. because she is faced with similar interagency problems in her province. She is responsible for the conservation of natural areas and national parks, strategic planning for sustainable use and bio-diversity, and fire prevention. She received briefings on ICS, MAC Groups, prevention and education, and fire science. She also toured the NIFC facilities. This visit was coordinated through the Department of State's International Visitor Program.

Hosting a German Delegation Representing the UN: During mid August, the International Program received a request from a representative of the German Government to come to the U.S. to observe how the U.S. was responding to the severe fire activity. The German Government supports the UN's Office for the Coordination of Humanitarian Affairs (OCHA) by

lending German disaster experts to UN assessment and coordination teams that are sent to international disasters. Over the past several years in places like Brazil, Indonesia and Ethiopia, UN teams have been asked to assess the effects of wildland fires on people and the environment and to offer recommendations to mitigate the effects. The International Program told the Germans to have UN-OCHA send a letter to the USAID Office of Foreign Disaster Assistance (OFDA) requesting to come to look at the fires. OFDA did receive the letter from UN-OCHA, which they forward it to Boise. A five-person German delegation was then invited to come to Boise in late August. When they arrived in Boise, they were briefed in Boise by the International Program on the interagency fire management system including ICS. They also received a tour of the NIFC facilities. They then traveled to the Clear Creek fire near Salmon, Idaho where they had the opportunity to observe and be briefed by the incident management team, tour and experience fire camp operations, and study air operations. At the closeout with the delegation, they were extremely grateful for the opportunity to be able to learn about U.S. fire management operations. They said they would take what they had learned and try to adapt it to international wildland fire situations which they might be sent to in the future.