

# memorandum *A. Swan*

DATE March 12, 1985

PLY TO  
ATTN OF: Peter Arnold, Senior Forestry Advisor

RDO-85-244

SUBJECT: Trip Report to Isla Isabela Fire, Galápagos, from March 5 to 8, 1985

TO: To the Files

## PURPOSE:

Evaluate existing fire situation and recommend response to GOE request.

## PARTICIPANTS:

Peter Arnold, Principal Forestry Advisor  
Robert Gara, Forest Protection Advisor  
Wilson Jácome, AID video cameraman

## ITINERARY:

Tuesday, March 5 - Quito to Puerto Ayora, Galápagos  
Wednesday, Thursday, March 6 and 7, Island of Isabela, re-  
turning to Puerto Ayora Friday March 8 - return to Quito.

## INTRODUCTION AND BACKGROUND

This report covers findings of a trip requested by the Ambassador to evaluate a request for disaster relief due to a fire reported on Isabela Island. Dwellings were reported destroyed and rare wildlife was supposedly threatened.

The first request for disaster relief assistance had come to AID on the evening of March 2. On the basis of telephone conversations with OFDA people in Washington and cables prepared by AID's XO, arrangements were made to fly fire fighters and their gear direct to Galápagos from the U.S. on March 3. The Principal Forestry Advisor was to accompany the Mission Director on a reconnaissance flight in the Mission aircraft and then remain at Baltra to act as liaison between GOE and the incoming fire team.

However, on the morning of the third, the head of Guayaquil's Civil Defense unit flew out to Isabela in an Ecuadorean Air Force plane and returned with the advice that

there was no emergency. This person's qualifications for making such a statement apparently are scant; moreover, shortly after he began his return to Guayaquil, a much larger fire broke out elsewhere on Isabela. But on his advice AID and the Embassy received word that help from the U.S. was not required. The departure of a C-141 starlifter with 87 firefighters and 10,000 lbs. of gear aboard was scrubbed just before departure.

During the afternoon of March 4, I talked by radio with the Galápagos National Park superintendent who said that of three original fires, two had been extinguished but that a fourth had started up during the weekend. Rumors were so many and so conflicting that he could not give a reliable report himself.

Because of the outbreak of the new fire, on the evening of March 4, GOE again requested declaration of disaster status to the U.S. government, and the Advisor was instructed to make an overflight and recommend appropriate action. Again the Mission aircraft was to be used, but this proved impossible. GOE provided commercial air transport.

I requested the participation of Dr. Robert Gara, Advisor in Forest Protection. Dr. Gara's experience as a smoke jumper in the U.S. Forest Service as well as his academic background in forest protection qualified him well for this assignment. Sr. Wilson Jácome of AID also accompanied us to videotape the fire.

The trip lasted from Tuesday to Friday March 5 to 8.

#### NARRATIVE DURING THE TRIP

We left on TAME's 727, hoping to find a FAE Buffalo waiting for us in Baltra. However, in Guayaquil the captain of the plane informed us that there was no aircraft awaiting us and that he would give us only a very brief overflight because of fuel limitation. At about noon Galápagos time, we overflew Isabela Island at about 1,500 feet. We were able to see one area where some small fires, still burning, were contained by fire lines. We saw nothing of the large fire reported to have covered 4,000 ha.

We arrived at Baltra airport and learned that it had rained the night before and that high winds reported over the weekend had dropped to almost zero velocity. We met members of INGALA (Instituto Nacional de Galápagos) as well as teams of Defensa Civil and Cruz Roja del Guayas which were sent there to help in this emergency. We caught the INGALA boat to Puerto Ayora and spent the night there. Radio reports from Isabela indicated

that the fire was under control but we decided to go there to observe the current situation.

On Wednesday March 6, we arrived on Isabela, met with the Governor, who had taken command the previous Saturday, and went to the two fire areas. The larger area of some 4,000 ha. lies northwest of Villamil on the slopes leading up to the volcano Cerro Negro. All of this zone lies in the Parque Nacional. This fire had burned northward from its origin in the lowlands, fanning out to cover a front of some 8 kilometers, burning dry grass, ferns, and low brush. There are no habitations in or near this burn. This fire appeared all but out, with only a few scattered small smokes remaining.

The second fire zone, in the vicinity of Santo Tomás, is in an area of small fincas. It included some 400 ha. where five or six separate fires were located. The vegetation and fuel load here were quite different from the part area fire. There were trees, down logs, and a thicker layer of dry organic matter - dry leaves, grass, brush and trees almost dead from the drought. This material provided a very high fuel load and the opportunity for hot spots to persist in spite of the rain. Lines had been run around each of the six fires with a D6 Cat; hand-built lines were built around individual smaller blazes. Many of these small blazes were still active and burst into flames when wind gusts arose.

There was no visible fire damage to habitations, livestock or crops despite the fires' locations within the populated area. The only damage reported was to a couple of houses that tractors had inadvertently hit when the operators were blinded by smoke while clearing lines around them.

We frequently emphasized to the Governor and his assistants that the hot spots should be extinguished immediately, because high winds may return and once more fan the small fires into major conflagrations. Unfortunately, the Governor had declared the emergency over after the rain, and had pulled out the people working on the fires. He allocated to individual property owners the responsibility for mopping up fires on their own lands. It was difficult to organize a concerted mop-up operation, because few of the property owners were on their land (many live in Villamil) and none of the workers conscripted during the emergency were available any more.

Wednesday afternoon we advisors went back alone into the second fire area. We found that both the tractor and hand-made lines generally had been effective, although there had been some jumps across the lines probably due to high and shifting winds

that carried burning debris across the lines. But the number of hot spots and their propensity to flare up really disturbed us.

Wednesday evening General Antonio Moral, President of the Junta Nacional de Defensa Civil, came in with his people, a professional rainmaker, and a television crew. They had overflown the area earlier in the day.

Thursday morning Gara and I had planned to work with local people in mop-up efforts in fire associated with the inhabited area. However, after a late departure, the general, his entourage and we were taken to the upper fire area instead, where we spent over two hours. This was a crucial loss of time. As we had feared, we noted that the beneficial efforts of the rain were now gone. The humidity had dropped and temperatures had risen to the point where the smoldering duff layer again blazed. This was beginning to happen in a number of spots, not only in unburned areas of the fire zone but also on its eastern periphery. Prevailing east wind speeds increased to about 10 mph. The western edge of the fire in the Park area was not visible but we assume it had burned out against the edge of a previous fire, which had occurred in June. That fire had been completely rained out.

We arrived at the second area shortly after noon. There conditions were mostly unchanged, and in spots the fire was slowly creeping across some of the lines, especially the hand-built ones. We told the people what the danger was and how to dig down to mineral soil. However neither the Governor nor the people with him seemed to sense the urgency for expediting control.

We left the second area and returned to Villamil. In one last meeting with the Governor we convinced him to reimpose the state of emergency and put everyone back to work. As we left Villamil in the afternoon the fires in the Park were burning against the wind on the eastern edge. If the wind were to change to the west these fires would race eastward toward the inhabited area. We also noted that at least one fire of the inhabited area was producing a dense smoke column, indicating great heat and the potential to go out of control.

We arrived at Puerto Ayora in the evening. Friday morning we talked with people at the National Park headquarters and with the Director of the Charles Darwin Station, Gunter Reck. He was not concerned over possible ecological damage, since fire of volcanic origin has probably been a recurring event ever since vegetation established on the island.

We also tried to make radio contact with USAID or the Embassy without success; we wished to pass on a request for personnel and tools to fight the fire.

Friday afternoon we returned to Baltra and while there, heard by radio that conditions had worsened, and that fires were again out of control.

On arriving in Quito late that afternoon we attended an AID debriefing and recommended further support. However, because GOE had not as yet again requested disaster relief, there was no way by which such support could be provided. We also requested use of the mission aircraft for a detailed aerial reconnaissance the following day, but this too appeared impossible. At least no one in AID wished to request it.

#### CAUSES OF FIRES

Because winds were so strong and so variable during the first days, it would probably be impossible to determine exactly where or how each fire started. In the inhabited area, we suspect that the several spot fires were man-caused. It would take a lot of interrogation to discover exactly what happened in that area.

In the Park, fire there was probably only one source instead of several, but it is quite likely that the point of origin also would be hidden by the fire burning against the wind beyond that point. This too was probably man-caused, perhaps by careless hunters leaving on unattended fire or dropping a cigarette. This is the second such fire in that region in nine months. The possibility was raised that some very minor volcanic activity could have ignited the grass. There is also the slight possibility that the June, 1984 fire could have stayed live underground for several months, finally surfacing when humidity and temperature conditions were right.

#### OTHER OBSERVATIONS

##### 1. Interinstitutional Cooperation

This fire emergency shows the total lack of coordination/cooperation that could take place between agencies of GOE. Of a number of such agencies only INGALA, the Junta Nacional de Defensa Civil and very peripherally the FAE were involved. Others that could have provided valuable contributions include:

Ministerio de Agricultura y Ganadería via PRONAF and within PRONAF, the Servicio Nacional de Parque Galápagos. PRONAF has three persons trained in fire management. This Advisor

requested the office of the Subsecretary of the Costa to urge the Minister to send these people to Galápagos, but nothing came of the request.

PRONAF also could have provided some tools on request.

Ministerio de Defensa.- The Navy could have provided transport and personnel from the bases in San Cristóbal and Puerto Ayora, but apparently offered nothing.

FAE could have provided logistical support beyond the use of one Buffalo aircraft for a few hours. Was such support requested?

The Army could have provided conscripts for firefighting. Were such people requested?

Charles Darwin Station.- This institution could have provided guidance in interpreting environmental concerns dealing with the fire, and possibly manpower. But, apparently, no lead agency exists to coordinate activities, or, if it does, it lacks the capability to do so. Only the PRONAF/AID forest protection subproject is addressing this problem.

2. Organization at Local Level.- As soon as the Governor of Galápagos was aware of the gravity of the situation he went to Isabela to take charge, and has remained there. He took the following measures:
1. declared a state of emergency for the province;
  2. declared "La Ley Seca" - i.e. no sale of liquors - on Isabela;
  3. conscripted all able bodied males over 18 on Isabela, to fight the fires - about 200 men;
  4. organized these persons into nine 2-part crews, each working 9 hours a day;
  5. evacuated women and children from the fire zone, and;
  6. called on INGALA, the Junta Nacional de Defensa Civil and the Servicio Nacional del Parque Galápagos for help.

Unfortunately, the rains that did come did not extinguish the fires but lulled everyone into the belief that the danger was over. The Governor lifted the State of Emergency and everyone stopped fighting the fires, despite our repeated warnings that they should continue.

The organization was good and the crews' efforts were effective. The only flaw was in the failure to follow up.

Just one or two persons with adequate training could have made the difference between the fire's being put out or their starting again -- as they did.

3. INGALA.- There seems to have been some rather strange involvement of INGALA and Defensa Civil del Guayas. For example Defensa Civil provided INGALA with 40 truck tires valued at S/.2 million apparently as a direct step in fire control. These tires arrived with us. However, there do not appear to be enough INGALA vehicles on Isabela to use all those tires. We saw only two dump trucks and a bus. If some of the S/2 million could have been spent on hand tools, a much more effective job in fire control would have resulted.

INGALA provided two gas powered water pumps but no couplings or hoses for them. Thus two potentially effective fire fighting tools were useless.

#### RECOMMENDATIONS

At the moment it appears that GOE is ignoring any thought of requesting technical or material assistance for the U.S. Government. Nevertheless we recommend that Gara return to Isabela to organize fire fighting crews and spend a week with them. We also provided AID with a list of emergency tools for immediate acquisition and delivery -- with luck, in time to help the people of Isabela put the fires out.

We are also recommending a fire course to be held on Isabela in May after the course held in Cotopaxi.

Finally, we are recommending that a supply of tools be kept in a bodega at the Park headquarters for movement to any of the inhabited islands where fire could occur.

cc: Neal Meriwether, EXO ✓