Anonymous A2

FINAL REPORT

TOLLGATE WESTERN SPRUCE BUDWORM PROJECT

UMATILLA NATIONAL FOREST

1988

FINAL REPORT

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TOLLGATE SPRUCE BUDWORM PROJECT

UMATILLA NATIONAL FOREST

1988

I Introduction

The decision to conduct a spruce budworm suppression project in the Tollgate area was finalized in January 1988. Shortly thereafter the Umatilla NF Supervisor identified an Incident Commander and Forest Coordinators for the project.

Key team members and the total organization needed for the project were identified in March with some team members becoming fairly active at that time. The first official team meeting was held in Walla Walla, Washington, on March 15,1988. Topics discussed included facilities, project size, training, contract information, organization, fleet, supplies, safety and resource concerns and a preliminary schedule of reporting dates. Two additional team meetings were held in LaGrande on April 1 and 13 with the same topics being discussed.

The Incident Commander and General and Command Staffs reported to the project headquarters on May 2nd. The majority of the Entomology employees (temporaries) reported on May 9 with most Operations people reporting May 16. The complete team was in place by about May 25.

During the period of May 7 through 17 Operations completed aerial marking. Aerial reconnaisance and training continued until May 27 when the last of the two marking/recon helicopters was released. A total of 128 flight hours were used during these periods of time.

The first two weeks of June turned cold and wet resulting in extremely slow insect and foliage development. During this period the entomology section remained busy tracking the development throughout the project. Operations concluded their training, helped entomology in the field and completed several tasks for the Walla Walla Ranger District. Also, during this time, some operations folks returned to their home units for up to 10 days.

The first day of spray operations was on June 15 and spraying was completed on July 1. Demobilization of the operations group and equipment started immediately and was completed the following day.

The project IC, General and Command staff and all other personnel excluding the entomology staff, were released on or before July 7.

Specific information regarding the major points of this introduction is contained elsewhere in this report and in the final Incident Package.

FOREST OVERVIEW

The Umatilla National Forest has become keenly aware of the threat which forest pests have to the maintenance and continued use of forest resources. The Forest is actively pursuing ways to control forest pests while minimizing the impact on the environment. The Tollgate Project provided an opportunity to apply a biological insecticide under operational conditions and also provided an excellent example of a well managed accident free operation. John Keersemaker and the entire Tollgate Organization are to be commended for their leadership and professional attitude. Their coordination with the Forest, other agencies and private landowners provided for a safe and trouble free application.

Area Command provided positive leadership and direction in adapting the Incident Command System to the Project and insuring a successful operation. The Forest felt it was a part of the operation thru the Project Incident Status Summaries and Area Command Situation Reports. There were numerous opportunities for local involvement thru media releases and field trips. Alexis Jackson did an outstanding job of public information and inservice briefings and operational tours.

An important follow-up to any operation is a review process. A Review Team was organized early enough in the operation to gather information and interview team members. Carrying the review process to completion should provide excellent opportunities to insure that future projects are as effective and efficient as possible in pest management on public lands.

ACCOMPLISHMENTS

Entomology - Completed larval density and insect development surveys on 108,000 acres. Entered and analyzed all data in WESTBUDS program.

Operations - Applied BT to 106,663 acres.
Completed aerial marking, recon and application with no aircraft accidents.

Plans - Completed daily 209's and shift plans.
Produced weekly project newsletter.
Kept records and arranged Final Incident Package.

Finance - Tracked costs as they occurred.
Projected costs for the future.
Prepared T&A's and Travel Vouchers.

Logistics - Complete fleet management.
Ordered, inventoried and demobed all equipment.

Safety - Coordinated drivers, 1st Aid and helicopter evacuation safety training.
Produced daily safety messages.
Attended daily group meetings to monitor safety awareness.

SAFETY

PROJECT STATISTICS

Person days worked : 2,244

Number of vehicles on project: 60 Miles driven: 113,160

Hours of flying time will be covered in the Air Operations Report.

The project had no serious injuries, only 2 minor accidents requiring medical attention were reported. The 2 individuals injured both had puncture and scrapes from falling and required tetanus shots.

We had no reportable vehicle accidents. We did have 3 incidents causing minor damage during the project.

This is an excellent record when you consider the risks & hazards associated with a project that aren't normally found in other projects. They include: flying helicopters at very low levels, numerous helicopters in the air at one time, driving trucks, long work hours over days and weeks, very early work hours (0300 into the early afternoon).

The time spent at the beginning of the project with project orientation, going over safety plan, driving, vehicle care and daily safety meetings all contributed to an excellent safety record.

I would like to credit Dave Bridgwater and Fred Wahl for their dedication to giving solid safety briefings daily. Their awareness of safety within their sections made my job a lot easier. The entire project had a very good safety attitude. People let me know of hazards and ways to improve our safety program for this and future projects.

FORMAL TRAINING

At the beginning of the project we gave all employees basic First Aid training and Defensive Driver training. Employees also received project and safety orientation. Training was also provided for all the ATL's AEM's and aerial observers in extrication and crash kit equipment. This training was provided by the LaGrande Fire Department and was very well done. We found some of our kits were not in good condition. A letter is being sent to the Regional Equipment Committee regarding these deficiencies.

No chainsaw training was given as we only used already qualified people for chainsaw operations. I would recommend continuing this practice for future projects.

One of the problems we encountered on the project was trying to get qualified first aid instructors and defensive driving instructors. Unless you have someone attached to the project who is an instructor it is difficult to get instructors for the number of people we have to train.

ILY SAFETY PROCEDURES

During the course of the project the daily procedure was to have a safety briefing each morning with the Entomology and Operations crews during their morning briefing. A weekly safety message was put in the project newsletter covering safety aspects needing attention that week.

During the operational phase of spraying, daily safety messages were prepared and were part of our Shift Plan.

Input was taken from project personnel and used in the Safety Message.

The general attitude toward safety was very good which made the job a lot easier.

Each section would also prepare a daily tailgate safety session going over operations safety or briefing a new person.

The Aerial Observers had frequent safety meetings with the pilots to go over operational safety.

FLEET MANAGEMENT

We had a good mix of green fleet, GSA and rental vehicles on the project. The fleet was well maintained by drivers and the overall management by Gil Davis and Pat Davis was excellent.

AIR SAFETY

We had an excellent safety record in the Air Operations Section, no accidents and only 2 incidents (chip lights). I feel it's extremely important to have the Air Operations Director position filled. We had some new people in Aerial Observers, ATL's and AEM's positions that didn't have much experience. Under those circumstances, it's very important to have a person who knows all the proper procedures and can train people. Not having a lot of experience in Air Operations myself, the AOD was a big asset to me regarding air safety.

There is one area of concern for future projects I would like to address. We had all the aircraft working out of the same helibase. This caused some problems with having spray ships and observer ships being in areas where we have control over observer ships and little control over spray ships.

I would recommend having a helispot where observers can be picked up in the morning away from the large scale operation.

SUMMARY

In closing I would like to say I felt we had an excellent safety record for the project, which I attribute to the commitment of all the project personnel. This was my first assignment as a Safety Officer and I really enjoyed it. I would not hesitate to do it again. All the people I worked with were excellent and very helpful. I would like to thank you for being given the opportunity of working on a successful and safe project.

AVIATION

1. Aircraft use for Marking, Recon, and Observation Training.

A.	No. of aircraft used		2		
B.	Total no. of hrs. flown		128		
	B.1 Recon hrs.	82.4			
	B.2 Marking hrs.	45.6			
C.	No. of Passengers Hauled		78		
D.	No. of Accidents	0	Incidents	0	
E.	No. of Power Checks		17		
F.	No. of Load Calculations		35		

2. Aircraft use for Observation and Block Recon during Application Period.

A.	No. of aircraft used		5		
B.	Total no. of hrs. flown		157.2		
	B.1 Spray Observations hrs.			144	
	B.2 Block Recon hrs.			13.2	
C.	No. of Passengers Hauled		76		
D.	No. of Accidents	0	Incidents	2	
E.	No. of Power Checks		17		
F.	No. of Load Calculations		51		

3. Aircraft use for Applications.

A.	No. of aircraft used	5
B.	Total no. of hrs. flown	143.6

4. Aircraft use for all phases of the Tollgate Spruce Budworm Project.

A.	No. of aircraft used	10
B.	Total No. of hours flown	428.2

Recommendations for future spray projects.

A full day on site refresher of S-270 presentation and breakdown of the extrication kit (Crash Rescue) also presentation and breakdown of the evacuation kit. All ATL's, AO's, AEM's and GO's need to attend.

We need to require in the contract that a certain amount of run up hours are performed on helicopters with major componenets, changes such as fire contract aircraft.

We need to establish fixed heliports throughout the project area, hopefully away from contract application aircraft or use helispot pickup of obsservers exclusively at official daylight to eliminate congested & uncontrolled airspace prior to or at official flying time.

We also need earlier inspection and carding of observation aircraft, pilots and service (fuel) trucks.

CONTRACTING

Application Contract

On the 2nd day of May, 1988, the Tollgate Operations shop was established and five key members (Ops Chief, Assistant Ops Chief, Office Assist/Dispatcher Air Operations Director, & ATL's) were on board setting up shop, inventorying equipment and supplies, designing training needs and establishing work priorities. The remaining 21 operations team members started arriving on the 2nd of May and by the 16th all operations personnel were on board with an anticipated spray date of May 27. During the next 10 days the team spent their time with group reconnaissance, helispot/helibase location and signing, and training. A cold weather spell came through the Blue Mountain region slowing the insect and tree growth down until actual application began on the 16th of June.

The first arrival of aircraft to the project were two Bell 206B III's, marking helicopters, on the 6th of May, which used a total of 128 flight hours. The use of the hours are divided into two distinct phases, marking and reconnaissance. The marking phase used 45.6 flight hours and remaining time, 82.4 flight hours, was used for spray block reconnaisance, sensitive areas and aerial hazard identification. The marking was accomplished by the 17th of May and the helicopters released by the 27th at the end of the reconnaisance period. These aircraft were stationed at Rambling Rotors facility awaiting the start of application.

The application aircraft arrived at the La Grande airport on the 27th of May and spent the next two days going through calibration and characterization. One more observation helicopter showed up on the 28th. The remaining spray and observation helicopters were awaiting the expected starting date before reporting. A total of 53,331.5 gallons of insecticide was deposited over the forest canopy covering 106,663 acres. Application began on the 16th of May with one helicopter and ended on the 1st of July with 3 helicopters. Five helicopters utilized 143.6 Tac hours (covers application and ferry time from staging area to work site). The five observation aircraft utilized a total of 144 hours during the spray observation and 13.2 hours on reconnaissance of spray blocks with the pilots for next day activity.

The project identified a total of 12 helispots and 2 helibases for use by the contractor. Helijet utilized 10 of the helispots and both helibases. One base was used only as an application operational helispot (Bald Mountain) while the other served as a staging area and application operational helispot (Ruckel Ridge).

The contractor, Helijet, proposed the Bald Mountain area as their site for staging helicopters and storage of insecticide BT. The project voiced a concern over the potential of a spill for either jet fuel of BT into a high value fisheries, Lookingglass Creek. The contractor responded by proposing an alternate site where they felt they could adequately contain a spill. That site is Andies Prairie rock pit which was also utilized as a helispot.

.e following functions need improvement so that they may work well on future projects:

(1) Match up micro motion meters accuracy with that on the batch trucks.

(2) Do not allow the operation to fly directly off the micro motion meter.

Overall, the application contract administration went well. The contractor was responsive to suggestions for improvements and when minor conflicts arose.

Insecticide Contract

The product, Thuricide 32 LV was pre-determined to be used on the Tollgate Western Spruce Budworm project.

The final quantity agreed for the project was 54,760 gallons to be delivered to Bald Mtn.

The first delivery was scheduled for 5-15-88.

The Date for Delivery was later negotiated to 5-22 & 23,1988.

Prior to 5-18-88, Helijet,Inc. proposed a new site for storage of the Thuricide. Fred Wahl,COR for the Aerial Application Contract, Chuck Sallander, Gil Davis & Ken Faulk of Helijet met at Andies Prairie Rock Pit to discuss the proposal. It was agreed that this site would be adequate and easy to control any Potential Spill.

The proposal was presented to the IC, John Keersemaker and Deputy IC Wayne Long. Wayne took the proposal to the Walla Walla Ranger District and came back with a letter "Agreement For Use",

which the Contractor signed.

Gil Davis then cleared the new site with Contracting Officer Ron Cason & he in turn wrote new site designation to Sandoz Corp.

On 5-18-88 Davis went to the site and met with Subcontractor to construct a berm, place a culvert and level a portion of the site in preparation for placing storage tanks for the product. The work was accomplished at 1700.

On 5-21-88 Pure Gro from Umatilla brought 5(five),7000 gal. Poly Tanks in steel frames and set them up in preparation for receiving Thuricide.

On 5-22-88 the first 4 loads of Thuricide arrived on site and were unloaded through Micro Motion Meter as required by the Aerial Application Contract.

Each truck had different configuration of tanks, valves and camlocks. Most of the unloading process went well except at end of the loads when air would get into lines and cause a "Slug Flow" problem. This created the meter to register pounds in a very fast manner when no product was actually being pumped.

4 trucks were unloaded this day with a fifth truck arriving at 1700. That truck was unloaded on 05-23-88, as well as the sixth truck.

The seventh truck scheduled to arrive with the first delivery never showed up.

The gallons of Product delivered to the site were accepted by the net weight, divided by the weight of the Product. After some minor difficulties with a couple of drivers, all proper paper work was delivered to C.O.R. and the result was 29,709 gallons were

delivered to the site, rather than the 35,000 gallons scheduled. Many calls were placed checking on the status of the seventh truck, and after several days it was determined it was never sent.

At this point of time, we had no sampling equipment or bottles, so no samples were taken.

The second delivery came 6-22-88. We had ordered 15,000 gallons and 3 trucks with 14,977 gallons arrived, bringing our total up to 44,686 gallons received. We ordered the remaining 10,074 gallons this date. Samples were taken of these loads and stored in LaGrande in the coolers.

The third and final load arrived 6-25-88 in two trucks with trailers. Total gallons delivered this day were 9522 for the two loads. The first load was 5028 gal. Second load was 4496 gals. This left us 552 gallons shy of our contract amount. Samples were taken of these loads & stored.

During the course of loading and unloading processes there were several minor spills within the confines of the storage site. Most of these were very minor 1/2 to 1 gallon and were quickly dealt with by covering them with dirt.

Some of the spills were caused by Blowing Pump Seals, Removal of fill hoses from Batch Trucks and draining hoses, changing set ups for unloading tankers to pumping from tanks to the batch trucks. The Contractor had buckets to catch product, but some minor leaks were inevitable.

During operations of loading trucks from storage tanks, the product passed through a 40 micron screen, prior to reaching the receiving vehicle. This screen was frequently plugged with foreign

matter. Some looked like hair balls, some a yellowish sandy looking material and others non identifiable materials. All this material has been saved to be given to the Thuricide Representative for analyzing.

It was noticed during the first delivery of 29,709 gallons and second delivery of 14,977 gallons of Thuricide, the material seemed to be quite warm and appeared to have a pressure build up in the delivery tanks. When the lids were cracked open on the tanks there was quite a pressure release of air, and the tanks gurgled for a period of time before settling down. There was no noticeable change of the material in the storage tanks.

Other than the afore mentioned items, no apparent problems were encountered with the product either in the storage facility, transporting or spraying operations.

The on site representative for the product worked for Wilbur-Ellis, a subcontractor of Sandoz Company. He was a fairly nice sort of individual, but had very limited knowledge of the materials being used. He was of little help when it came to questions concerning the product. Bill Beck of the Sandoz Company was on the project one day at the first of the project. He and I talked at some extent, and he gave me his phone number in case of any major problems.

From my perspective, the product was fairly easy to handle, store and spray.

Gilbert A. Davis

Contracting Officers Representative

VI FINANCE

Dollar Saving Measures:

Several measures were taken to reduce expenses. Initially 19 rental vehicles were canceled from the original order in lieu of detailers bringing Green Fleet vehicles from home units. Initial supply order was reduced and some supplies were acquired from forest supplies. The initial personnel order was also reduced and jobs combined. Some reporting dates were set back. Employees leaving the project early or terminated employees were not replaced. ir jobs were absorbed by other employees on the project. As staff reduction occurred project fleet was reduced by early release of affected vehicles. During periods when weather did not allow us to spray, local detailers and state employees were temporarily turned back to home units to work.

T&A and Travel Process:

All detailers were asked to bring copies of their last T&A, last travel voucher, and requests for travel advances. Actual T&A's were electronically mailed from home units to the project. New T&A files, for temporary employees, were developed here. T&A'S and travel vouchers were processed directly on the project. Time was transmitted electronically to the Umatilla S.O. to be sent to NFC. Travel vouchers were prepared and transmitted from the project direct NFC. Copies were made of all time and travel documents for the employee,

their home unit, the host forest, and project records. As detailed employees left the project T&A's were electronically mailed back to their home units. The same applied to temporary employees who were picked up by other Forest Service units.

T&A clerk will stay through completion of project to process all time and travel documentation.

Tracking Of Costs:

Costs were tracked on a weekly basis using actual expenditures on all purchases (including gasoline), time, travel and fixed costs (which included: bldg. & property leases, utilities, rented equipment, and vehicles). Fixed costs were apportized over a three month period at a daily rate. Some fixed costs, such as mileage for vehicles and utilities, were estimated when actual cost were not available.

TOLLGATE SPRUCE BUDWORM PROJECT
UMATILLA NATIONAL FOREST
FINAL BUDGET
JUNE 30, 1988

PROJECT EXPENSES:

SALARIES:		
Actual 4/25 thru 6/18/88	$223,020	
Est. thru project end	117,000	
State O/H admin. costs	21,300	
Misc. salary costs	10,000	$371,543
PER DIEM:		
Actual 4/25 thru 6/25/88	$ 91,301	
Est. thru project end	20,800	112,101
SUPPLIES:		
Actual thru 6/25/88	$ 51,451	
Est. thru project end	2,334	
Gas & oil thru project end	3,200	56,985
FIXED COSTS:		
Facilities:		
Building	$ 6,500	
Parking lot	375	
	6,875	
Office Equipment:		
Photo copier	$ 1,000	
Blue line	1,000	
	2,000	
Utilities:		
Phones	$ 3,500	
Garbage	200	
Elect. & heat	1,500	
Janitorial Serv	2,260	
	7,460	16,335
VEHICLES:		
Green Fleet	$ 17,300	
GSA Fleet	18,200	
Rented Vehicles	50,204	
Repairs & claims	3,000	88,704
		$645,668

POST PROJECT COSTS:

Demob Costs	$ 8,000	
Salary Costs	$ 4,000	
Per Diem Costs	$ 5,000	
Misc. Costs	$ 8,000	$ 25,000
		$ 25,000

TOTAL PROJECT COSTS	
FINAL BUDGET PROJECTION AND ACTUAL	$670,688
FOREST ALLOCATION FROM REGION	734,500
PROJECTED SAVINGS	63,832

Starkey + Tollgate

GS estim. .0358 .9642

24011 646,677

p.4: 106,663 ac

$670,688 / 106,663 ac = 6.29 $/ac

GIS ac: 100,734 = 6.66 $/ac

PROJECT CRITIQUE

TOLLGATE TEAM CRITIQUE

START IN LAGRANDE 5/2/88
FINISH OPERATIONS 7/2/88

Projected Acres Completed = 106,663
Projected Costs (Admin) = $670,688 ($6.30/Ac)

Objective:

Critique those items that will improve the effectiveness of this team or future teams.

Operations:

* A lot of people had little experience but through good training were able to perform at a high level.
* Being able to hold people on the project during slack periods (was good).
* Forests should have projects lined up to be able to put people to work during slack periods.
* Good Supervision in Op's (Fred & Chuck).
* Got a good taste of training in Eugene - able to get training before spraying - able to observe project prior to starting.(All ops).
* Eugene training was good - may be too long - for new people.
* Some of the Ops people interested in participating in a project in the future.
* State people worked out very well. Good people.
* Would like to have State participate in future.
* PROBLEM State may not participate in future.
* It is good to put experienced people with inexperienced.
* The Ops Chief should not be the COR.
* The AOD took a load off the Ops Chief.
* The AOD could possible fill the role of COR.
* Look at making one person responsible for all contracts.
* Removing COR from operations may lose some coordination.
* The method of Ento sampling was good. (Allowed to make decisions early in day.)
* Another plus was being able to use Ento people in Ops to monitor operations (ground observers,etc.).
* Equipment was very timely.
* An opportunity for BIFC to gear up to accomidate spray project. Example,(no cargo nets in (H) kits), Evac kits need to be brought up to modern day standards.
* Radio system needs to be set up out in front and designed for a Spray Project well in advance.
* Should continue to use NEET formulations of B.t.
* Ent & Ops need seperate frequencies.
* VHF & FAA issue needs to be resolved within the next couple of months.
* Card analysis was used properly this year.(Used for immediate feedback).
* Dispatch should be in adjoining room (Project dispatch,ento/ops).

- Base Station - deal with more than Command Frequency i.e.FPM Sets.

- Fred & Dave's coordination was good.
- Coordination between Ops/Plans could have been better.

LOGISTICS

- Having an assistant was essential.
- Ability to obtain needed equipment w/o red tape (Pat & Gil were exceptional).
- Mixture of fleet vehicles was correct.
- Contract for vehicles must be done earlier!
- Regional contract for multiple projects.
- Accountability for items given out was good. People felt they were trusted.
- More lead time, or more help to set up office. Moving in desks,etc.
- Good fleet maintenance & couple extra vehicles available.
- AEMs could use pickups w/canopy. Not vans.
- Multiple projects, need to identify single group for ordering.
- Facility was excellent. Good condition,$ o.k..
- Need to be up front w/SO & RD's about impact of a project.
- Where we told them to expect an impact things move smoothly.
- Both W-W & UMA were very cooperative
  Purch. Comm, Safety Cargo nets, tool boards
  2 SO's - PNW - LGRD - Fire Center.
- Should have taken an earlier look at housing. Use a PO - rent a block of rooms early. Do as soon as project location is decided on.
- Tele communications was good. Being on UMA System was great.

FINANCE

- We looked at our finances - honed down, didn't have to drop folks or acres.
- Jean was great.
- Pay, Travel Per Diem rules must be established prior to project starting. Night differential needs to be figured out up front.
- Good job of managing budget.
- Everyone felt they had a part in the budget process.
- Kept costs below the target of $6.50/Ac.
- Dorene felt everyone was cooperative.
- Budget process needs to be set up prior to start up.(for multi-projects)
  - Tracking
  - Collect costs.
- Each project needs its own code. Do not have reimbursable codes-it's too hard to track expenditures.

PLANS

- Mapping done early on was very beneficial. Little or no changes.
- Multiple projects - maps prepared early is crucial.

- Identify the role of plans in a Spray Project.

- Need to look at which positions could act as person to pull plans together.
- PC functions - Plans tool is a bad expenditure, good for Spreadsheet, etc. Put Ento data on it. If used correctly it could be a valuable tool.
- What records need to be kept?
- Meteorologist need to be assigned early and same person kept for duration.
- Need to have a 30-day forecast by mid-May.
- Meteorologist could stay in Boise & provide us with same info.
- If we have a project Meteorologist, have him come in every day to explain his forecast.
- Weather forecasting is Very critical - It ties into spending money.
- Future Meteorologists need to have Spot Forecasting experience!
- Who is responsible for dissiminating Site Specific documents in the Ops Manual
- Present Ops Manual isn't a tool. It needs to be redesigned as a ready reference.
  Job descriptions need to be accurate.
  Needs to be user-friendly.
- Needs to be cleaned up - don't duplicate with ICS Manual

?ETY

- Safety Officer on with rest of team.
- Safety attitude of Section heads was good.
- Safety wasn't a thorn in the side.
- Chuck used appropriate approach.
- Crew Orientation/Defensive Driving was beneficial.
- Safety messages were appropriate.
- Who is going to authorize helicopter passengers?
- Team needs to identify flight rules early.
- Designate a pick up spot for aerial observers.

ENTOMOLOGY

- Combine groups to one.(Lab & Field).
- Essential that field crews have radio communication.
- Field sampling brought us earlier release info by 2 days.
- Local hires worked well.
- Essential that Ento & Ops crews know each others jobs.
- Ento supplies need to be ordered thru Logistics.

LIC INFORMATION

- In this case, shared position worked fine.
- IO felt frustration about not being at the project all the time.
- Having 209 done by plans, kept IO from having a personal contact thru DG.

GENERAL

- Start planning for next years project TODAY.
- Willingness to share info helped create a Team Spirit.
- Having early meetings helped , instead of waiting until afternoon. Make the decision with best info you have at the time.
- Having a pleasant place to work helped morale. ($ well spent).
- Everone willing to help each other out!
- Openness - very little reluctance to discuss things.
- Overall Budworm project too big (R6) (don't bite off more than you can chew!)
- Look at Trainees for future projects. As a Trainee can they be locked in to next year? Need to be rotated in.
- Forests that anticipate having a project need to have their IC, etc. identified & participate.
- Need to recruit NOW for next year.
- Project went smoothly, overall . Group dealt with problems as they arose.
- Group needs to have someone from District being treated. Use of the local Resource Advisor was good.
- Regulations governing Cash Awards to non-forest service employees needs to be changed,i.e., State employees.
- John has done an Outstanding Job as IC!
- IC appreciates the open communication & support.

I ENTOMOLOGY REPORT

TOLLGATE SPRUCE BUDWORM PROJECT

ENTOMOLOGY REPORT

By

David R. Bridgwater
Entomology Chief

Introduction

The Tollgate Project was split into two units, Tollgate South (bid item 6.1) and Tollgate North (bid item 6.2). This was done to take into account anticipated budworm population differences. In addition, the Starkey Unit was added to bid item 6.1. Each bid item was divided into spray blocks that were relatively homogeneous in terms of aspect and elevation.

Originally, it was anticipated that 28 people would be needed for the ological sampling. However, with the reduction of State and private lands, needs were reduced. Twenty two crew members were hired and were with the oject the first full week. Later, two people left to work at other jobs. Entomology crews were hired from the local commuting area through the local State Employment Office. Because the area had a warm, dry spring, entomology crews reported on May 9, with the anticipated start of sampling May 14, and the start of spraying May 29. However, cool weather during late May and early June retarded insect and tree development, and delayed the first block release until June 14 and initiation of spraying until June 15. During the first week, entomology crews were given first aid and defensive driving training, and project orientation prior to start of formal sampling.

Three types of sampling were conducted: 1) early larval density to qualify the units for treatment; 2) developmental sampling to determine the proper time for releasing blocks for treatment; and 3) post treatment larval density to determine whether the treatments reduced populations to the target level of an average of less than one larvae per 45 cm. branch tip.

The insecticide used on all three areas was Thuricide 32 LV applied at a rate of 16 Billion International Units in 64 ounces undiluted per acre. Application was made utilizing various size helicopters and electric rotary atomizers.

Methods

Early larval density sampling was conducted during bud burst on 48 plots in Tollgate North, 73 plots in Tollgate South, and 17 plots in Starkey. Plots nsisted of three host trees, 20 to 30 feet tall, either Douglas-fir, true r, or spruce, whichever made up the major component of the area. One 45 cm. branch tip was collected from the mid-crown of each tree using a pole pruner

with an attached collecting basket. Each branch was placed in a labeled paper bag and returned to the lab for examination. In the lab, the number of buds, budworm larvae, and other lepidoptera larvae were recorded for each branch on the early larval density data sheet and entered into the EDENSITY data file in the WESTBUDS program. To qualify for treatment a unit must have had an average of 4 (+ Or - the standard error) budworm larvae per branch tip.

Development sampling was conducted following bud burst on three plots per spray block to get a representative sample of the range in elevations and aspects in the block. A plot consisted of four host trees that represented the mix of species in the block. At each plot, one 45 cm. branch tip was clipped from the lower crown of each tree. The samples were examined in the field. Sample processing consisted of: (1) tally unfurled shoots and total shoots or opening buds; (2) process the branch through a beating box to dislodge all larvae onto a canvas tarp; and (3) examine and tally all spruce budworm larvae by instar. If 25 larvae were not collected on the four branches, additional branches from additional trees were sampled until at least 25 larvae were collected. The data was put on the development data sheet and later entered into the DEVELOP data file in WESTBUDS. If it appeared the the release criteria of less than 15% of the larvae were second and third instars, and 95% of the shoots had unfurled, the data was called into the office over the radio system allowing for earlier block releases.

Post-spray density sampling was conducted at the same sites that were sampled for early larval density. Again, three open-grown 20 to 30 foot trees had two 45 cm. mid-crown branch tips pruned using a pole pruner and collecting basket. The species of trees selected were the same as the predominate host type. The post-treatment evaluation sample was read in the field at time of collection. Each branch was processed in a beating box and a tally made of all budworm larvae, pupae and pupae exuviae. This, with a tally of the number of shoots and any other lepidoptera larvae, was entered on the evaluation data sheet and later entered into the LDENSITY data file in WESTBUDS.

Results

Early larval density was as follows:

Tollgate North	7.67 ± 1.33
Tollgate South	6.76 ± 0.83
Starkey	6.50 ± 1.37

$\bar{X} = 7.22 \pm 1.08$

Post-treatment density was as follows:

Tollgate North	.68 ± .15
Tollgate South	.55 ± .09
Starkey	1.42 ± .39

$\bar{X} = .615$

Discussion

All three areas met the qualification level of 4 larvae per branch tip. These numbers do not represent the prespray population density in the treatment area. The samples were taken early and all of the larvae may not have migrated from their overwintering sites.

Having the sampling crews do the development sampling in the field paid many dividends. Releases could be made the morning of sampling which allowed operations to do a reconnaissance of the block the same day and allow treatment the following day. In addition "lab burnout" was avoided. In future projects, the need for extensive lab space may be reduced. Local hires were easy to train in instar determination, and it gave them a little more feeling of being part of the total picture.

Most spray blocks were treated the day following release. The first block was treated on June 15th, and the last block completed was on July 1st. Only one spray block out of 62 needed to be resampled because it had not been sprayed within 72 hours. No blocks were dropped because of pupation. All blocks were treated prior to any pupae being found.

Good results were obtained on the Tollgate North and Tollgate South Units. Most of the areas were well treated. Some sample plots were skipped or missed, but this is to be expected.

The results on Starkey are not quite as good. Two plots with high population counts that are obvious skips. Excluding these two plots, overall, the Starkey Unit was well treated and populations greatly reduced.

TRANSITION PLAN

List of things to be done after Ops Demob.

Finance

Time & Travel will continue to be done by Jean.
Time & Travel records need to go in Final Package.
- also Purchasing Records.
- Fire Cache Orders.

* - Contract/Agreement close out.

- Building, janitor, garbage, utilities and fleet.

Logistics

Fleet

- Rentals
  Deliver to LaGrande Fire Center for pickup by contractor.

* - GSA & Green Fleet need to go to Pendleton.

- Pull all tools & misc. equipment out of appropriate vehicles.

- Pull license plates on rentals.

- Need to clean & gas all rentals.

* - Send extra tires to Pendleton.

* - Final inspection on rentals (Tom Curtis).

- Send final records to C.O.

Property

- Office keys, FS keys, misc. equipment all returned to Supply for Demob.

  Pat Davis will come back later in July to ship last of equipment & take care of other items.

  Desks - some going to Districts - rest go to PNW for sale.

* - DG & telephone needs to be removed by Umatilla.

  DG - Phone
  Entomology needs 2 DG's, 1 printer, & 3 phones.

  Copy machines
  Entomology keeps 1 copy machine & blue line.

  Radio
  Entomology keeps radio system until end.
  Communication Unit Leader to remove and return to BIFC.

Need to identify things to give to forest.

* Return Fire Center equipment:
Microwave, shelves, picnic tables, etc.

Return LaGrande R.D. equipment.

* Coordinate <u>all</u> with Meacham.

Plans

Package up PC.

Continue to DG a 209 each day.

Send Final Package to Umatilla.

FFIRMATIVE ACTION ACCOMPLISHMENTS

The following is a breakdown of the Affirmative Action accomplishment for this project.

FS detailers: 30% women
1% minorities

FS temporaries: 48% women
4% minorities

State detailers: 7% women
0% minorities

Total Forest Service Employees:

38% women
4% minorities

INFORMATION ACTIONS and CONTACTS

Work began on the Umatilla projects in February. I spent a week on the Forest calling local key contacts, writing a news release, and organizing a press conference. The objective was to inform the public that the Forest anticipated a large scale spray project. I briefed the Chamber of Commerce in both La Grande and Pendleton and told them approximately how many people they could expect in the communities.

Work continued periodically throughout the early spring, Randy Dohrmann, Deputy Incident Commander organized a public meeting for the landowners in the Meacham unit to advise them about the project.

I arrived in Pendleton on May 16 and the following is a breakdown of activities throughout the projects.

Tours

May 24/25	Washington Office delegation visit. Office briefing, toured Meacham Project.
May 31	Bob Klicker and John Howard, County Judge, toured Tollgate headquarters, field trip with Dave Bridgwater, project entomologist to view sampling procedures.
e 10	Briefing and field tour with Hance Haney, Resource Assistant to Senator Packwood
June 18	Meacham field tour for Walla Walla Task Force. Heliport 1 for lift-off, traveled to H-8 to view helicopter landing and reloading, viewed several hours of aerial application on Butcher Ridge, traveled to block 9 to observe entomological sampling.
June 22	Deputy Regional Foresters and Directors tour of the Barometer Watershed and Tollgate project. IC Keersemaker and I briefed the group on budworm, checked trees in the area for budworm, traveled to H-4 to view helicopters then on to batch site.

Speaking Engagements

May 17	La Grande Rotary with IC Keersemaker and Dave Bridgwater
June 14	Pendleton Kiwanis

ily Meetings

May 17 Briefed FLT on the Wallowa Whitman NF about both projects

May 18 IC Keersemaker briefed La Grande RD employees

May 26 Walla Walla RD, Keersemaker, Stipe, Bridgwater, Jackson

May 26 Supervisor's Office in Pendleton, Keersemaker, Stipe Jackson

Media

Calls to all on key contact list at start of project

News releases in February, May, and end of projects

Field trip with Wil Phinney from the East Oregonian on June 15. Article and photo in June 16 issue of the paper

Daily calls to media once spray started

Radio interviews with Oregon News Network, KORD in Tri Cities, KLBM in La Grande, and KUMA in Pendleton

Interview with Barney Lertin from UPI

Field trip with Nella Latezia, La Grande Observer, June 28.

Telephone interviews with Dick Cockle, Eastern Oregon reporter for the Oregonian.

Field trip with Eugene Register Guard on July 6.

Miscellaneous

I organized display areas in both headquarters, bulletin boards in the Meacham headquarters and in the Supervisor's Office, wrote a fact sheet for distribution to public and employees.

Distributed information packets to local area bulletin boards, resturants, and Chambers of Commerce. Toured the Tollgate area and made calls to businesses in that area to talk about spray.

We held an open house on both projects prior to spraying.

Media calls are scheduled and a press release will be issued once spray operations end.

ATTACHMENTS

Statistics

Personnel

Forest Service

Detailers	27
Temporary	22
	49

Oregon State Department of Forestry

Forest Service Retirees	2
OSDF Temporaries	11
	13

62 * .0358 = 2 (starkey)

.962 = 60 (tollgate)

Total number of employees - 62

Computer Equipment

Data General

5 terminals, 1 printer

Used for:
- Entomology data analysis
- T&A preparation and transmittal
- General record keeping
- General communications

Personal Computer

1 PC with printer, plotter, Bernoulli & software

Used for:
- Preparation of Daily Shift Plan
- Various graphics
- Operations data storage

The PC as used for Plans and the Operations data stored on it is probably not a good investment. However, if Entomology data is added and other uses are explored, the PC will indeed be an efficient tool to have.

ly Spray Accomplishment

June 15	1952 Acres	June 24	5108 Acres
16	1220	25	8290
17	762	26	11,526
18	1546	27	-0-
19	7361	28	-0-
20	8572	29	-0-
21	9336	30	14,554
22	12,632	July 1	8346
23	15,458		

ly Diary

May 2 - Most of General & Command staff arrived. Started setting up office.

May 3 - Team met with Forest Supervisor and staff to discuss project concerns.

May 6 - Started aerial marking.

May 9 - Entomology crews (temporaries) report to work. Several Ops people also report.

May 10 - 1st Aid Training for all uncarded employees.

May 11 - Defensive Driving for all uncarded employees.

May 12 - Entomology crew training for field sampling.

May 13 - Entomology crews begin field sampling. Met w/ PNW regarding Starkey area and their concerns. Team met to discuss treatment of private lands.

May 16 - Remaining Ops people report to project.

May 17 - Aerial marking completed.

19 - Met w/ Forest Supervisor and Area Commander regarding treatment of private lands. Accepted decision to treat all private lands within project area.

May 20 through 27 - Entomology crews continue sampling. All blocks qualified for treatment based on population. Ops working on helispots, assessment needs, etc. Air reconnaisance completed, two marking helicopters released.

May 28 through June 14 - Bad weather. Entomology crews continue on development sampling. Some Ops people released home, others working for Walla Walla RD.

June 15 - First spray day (one helicopter).

June 19 - First day with all (5) helicopters working.

June 21 &22 - Starkey Experimental Forest sprayed.

June 27-29 - No acres sprayed due to bad weather.

July 1 - Spraying completed with three helicopters.

July 2 - All ops people released. Demob of equipment started.

ly 7 - All others released. Project transitioned to IC Dave Bridgwater.