

Summer Jobs

Forestry In Ames

Elaine Caldbeck

"What's your major?"

"Forestry."

"Oh, you want to be a Park Ranger and sit in a fire tower all the time."

"No, not really. You see I want to be in research."

"Research?"

But how do you make sure you've made the right choice? You never know for sure, but you can try a dream and see if you like it. That's what I did for my summer job. I was a lab technician in Forest Pathology here at ISU.

Exciting? I thought so. My summer job included learning how to make five kinds of agar, planting 1400 poplars, traveling around Iowa

collecting disease samples, and taking a two-week trip to Georgia by way of Michigan.

I was involved in all sides of research, from washing glassware to planning and completing a research project. The project included writing and submitting an article to the *Journal of Economic Entomology*.

The emphasis of the summer was pathology: insects and diseases of trees and their relationships. I accumulated field knowledge about pathology that would be hard to obtain in class.

With my boss, Dr. Sande McNabb, and his graduate students, I attended two professional meetings. The meetings provided me with a feeling for the variety of definitions of

research and for the spectrum of people and ideas found in a scientific field.

One of the meetings I attended was the third North American Conference on Mycorrhizae in Athens, Georgia. The meeting included four days of papers—all given on mycorrhizae. (If I never hear of mycorrhizae again it will be soon enough.) It was intriguing to hear the questions the mycorrhizal researchers asked, answered, generated, and ignored. It allowed my mind to travel many new pathways.

As a lab technician, I saw a bit of the country, learned lab techniques, met many interesting people, and enjoyed myself. Do I still want to go into research? Yes, I do. But I also want to spend some time in the woods. Next year I hope my summer job will be in Oregon or Washington or Alaska, anywhere but Ames, Iowa!

Sampling the Grasses

Terrie McCoy

My first summer job in a forestry-related field found me in Wallowa, Oregon, population 920. I was working with the Forest Service on the Wallowa-Whitman (W.W.) National Forest. My job title was Range Technician.

The W.W. National Forest is located in the north-east corner of Oregon, an area that is very beautiful, yet rather diverse. My job involved a great deal of traveling around the forest, so I saw much of the beauty of eastern Oregon. The Snake River Canyon country is the driest and hottest part of the Wallowa-Whitman. Grazing of cattle is the only use this country receives for it is too dry for trees to survive, yet grasses grow well. However, the valley country near the Canyon is farmed and such crops as apples, peaches, wheat, and corn are raised.



The Wallow Mountains, with elevations over 8000 feet in many places, support a beautiful forest of Douglas and white fir, ponderosa pine, Western larch, lodgepole pine, Engelmann spruce, and at the highest elevations, whitebark pine. These high mountains are called "the Little Switzerland of America." Beautiful lakes carved from glaciers are located throughout the mountains. Located in this area, also, is the Eagle Cap Wilderness. Since this area had very little range land, I was not able to spend much time gazing at the beautiful granite mountaintops and forested slopes and valleys.

Besides getting lost in all the magnificent beauty of the land, I did do some work. My job involved condition and trend sampling of the range.

Each district of the National Forest divides their lands into allotments, whereby the local people rent these allotments for cattle grazing during certain parts of the year, primarily spring and summer. The Forest Service draws up the management plan for the range, and rules are established as to how and when the certain ranges are to be used for grazing. The permittees (or renters) are to follow these rules so that the rangelands will be utilized most effectively—no over or undergrazing.

In order for the Forest Service to plan a management system, data on the range condition must be known. This is necessary so that specific activities are done, or not done to keep the range in good condition. It is also important to find a trend for interpreting how the range is doing in the long run, under the present management system. It was my job to obtain this condition and trend (C&T) data.

The data was composed of pictures, both slides and prints, taken of the range. Plant composition and coverage was also recorded. I obtained this data in the exact places that previous data had been obtained (from four to twenty years ago). These two sets of data would be used to interpret the trend of the land.

My first duty was to find the old C&T cluster. A cluster consisted of a witness tree, supposedly marked on a map or aerial photograph, and two or three transects. A transect consisted of three iron stakes, one at the 0 foot end, one at 50 feet (midpoint), and one at the 100 foot end.

One of the hardest parts of the job was to find the witness tree, as after 20 years, the paint was usually faded or the tree was no longer there. Once I found the tree, I had the task of searching for the stakes. And, as you can imagine, that can be difficult, especially in areas recently logged or

where cattle and elk graze heavily and step on or kick out the stakes, or where frost either gulps the stakes under the ground or heaves them out.

There were a few times, though, that I was able to find the transects. Then I would stretch out a 100 foot tape, from the 0 foot stake to the 100 foot stake. I would photograph two long shots of the area, at the 0 foot end looking towards the 100 foot end, and at the 100 foot end looking back to the 0 foot end. Then, I would take pictures of the ground (a square yard outlined by rulers) at 5, 30, 55, and 80 feet.

Next I would take a 1/10 square meter plot (a wire rectangle 50 cm. × 20 cm.) and lay this at 4, 8, 12, 16, 20, 24, and 28 meters. At each plot, I would identify the plant species and estimate the percent coverage of that falling within the plot. This was routine at each transect, and took about 45 minutes to complete.

Plant identification was the hardest part of the job. I knew very little about taxonomy, and being in such a different part of the country, all the grasses and forbs seemed to look alike. They are quite different from Iowa's corn and soybeans. However, I did work much of the time with an ecologist from the Ranger District, and with his help, I gradually learned about Eastern Oregon plants and grasses.

All in all, the summer was a good learning experience. I learned a few things about range management and plants. I was also closely involved with the structure and procedures of a Ranger District and with the Forest Service in general.



A Dream Come True

John Jennett



John, bucking a "small cottonwood. At 32 feet, the diameter was 4 feet.

The job that I am writing about can't really be considered a summer job. It started long before the summer of 1977 and will last for many years to come. (If I'm lucky.) Actually, everything began nine or ten years ago when we were having some logs sawed at a neighbor's sawmill. As I worked carrying slabs away and stacking the finished lumber, my senses were hard at work taking in all of the sights, sounds, and smells around the mill. Gradually a strange feeling came over me. It was puzzling at first but I finally realized that I had sawdust in my blood. I said to myself, "Self, this is for us. Some day we have to own our own sawmill." The years passed and I dreamed of the day when I would be the head sawyer at my own mill. Finally, after finding mills that were over priced, worn out or already sold, we located a small mill in the north-

east corner of the state. At last, things were beginning to take shape.

In the fall of 1976, my father and I traveled to Elkader, Iowa to see the mill. It wasn't anything big or fancy, but it seemed to be in fairly good condition, and the price was right. After finding a trucker to haul it home, we began the task of dismantling it. This was fairly easy and only took half a day. When the mill was delivered, I found that putting it back together would not be quite as easy. The ground had to be prepared and a foundation strong enough to support the mill needed to be built. Finally, after two weeks of hard work it was finished. I packed up my tools (and all of the parts that were left over) and prepared to saw my first log.

I chose a spruce log that wasn't very good and after a few cuts I discovered that something wasn't

quite right. The boards were one inch thick at one end and one-fourth inch thick at the other. This would be fine if I was cutting shingles but they wouldn't make a very good table top, so I started reading books to find the problem and its solution. I made a few adjustments and tried it again. The boards were getting better and after a few more adjustments, were uniform.

Between school and a part-time job at the Strautman Tree Farm near Cambridge, I didn't get too much lumber sawed. Then winter set in and nothing got done. Things around the sawmill went pretty slow until the middle of the summer. We began getting custom sawing orders and calls from people wanting to sell trees. In the middle of August, another job came in. This consisted of about twenty thousand board feet. At last we were on our way to becoming the largest commercial sawmill in Story County. (Never mind the fact that we were the only commercial sawmill.)

I can truthfully say that I have learned more in the last few months than I ever have. These few jobs have brought me in contact with almost every aspect of forestry. I have learned about buying logs and standing trees, logging, trucking logs, sawing lumber and selling the finished product. I have also had to deal with land owners and the general public. There are so many things that I have learned from this job that I could write a book.

A modern day philosopher in northeast Iowa once said, "Sawing logs is a real trip. You are seeing something that nobody has ever seen before." After sawing many logs, I have to agree with him. To see a crooked, ugly looking log go on the carriage and seeing even boards with beautiful grain patterns come off is fantastic. It feels so great to be working in this field that I hope that Walnut Lane Wood Products and I can continue to work and grow for many years to come.



"Load 'em up, move 'em out." These are maple logs taken from south of Ames.

North to Alaska

Craig Boldman

Last spring and summer I had the great fortune of working in Southeast Alaska with the Forest Service. I worked in the Stekine area of Tongass National Forest and was stationed in Petersburg, Alaska.

As for a bit of information about Southeast Alaska, I'll start by saying if you're planning a trip to Norway don't bother to go. You can see the same sites in Southeast Alaska. The sites I'm referring to are the steep, narrow fjords, the snow-capped mountains, the glaciers, the fishing communities, the logging camps and the hemlock and spruce forest.

With regards to the weather in this area it is very different from what it is here in Iowa. The temperature during the summer averaged 55°-65°. The precipitation was heavy enough so that if you ever wanted to go up there to work you better have a good set of raingear.

Now that I've given you some details about Southeast Alaska, let me suggest a cheap way to get there. First off, flying is not what I had in mind, so "can" that notion. If you don't mind riding on a train for four days and going nuts on a ferry for another two days you can save yourself a heap of dough. I suggest riding the Canadian National Railway from Winnipeg, Manitoba to Prince Rupert, British Columbia and from there riding the Alaskan Marine Highway Ferry to Southeast Alaska. The cost was under \$200, but I went strictly third class all the way.



Government work.

Now that I've guided you to Southeast Alaska, what is there to do once you are there. I would have hoped you brought your camera, fishing gear, and your favorite forestry textbooks (unless you are one of those light-weights that like to read normal books)!

The basic kinds of fishing include salmon and halibut, but there are many excellent trout streams, too. If you like hiking and taking pictures, there are many interesting subjects to take pictures of, e.g. wildlife (bald eagles, moose, bear—brown and black, mountain goats and mountain sheep). But remember when you are out hiking around you are in bear country and that is a good enough reason for you to carry a big bear rifle (.375 magnum). I agree it is a big pain

in the rear to drag a rifle wherever you go. I had to do it all the while I was working up there.

Now that I've told you what I did in my spare time, I'll explain briefly what my job entailed. I worked on a stand density study with a crew of four. Our job was to fall second growth hemlocks and spruce in the fifth acre plots that had been marked for cutting. The "leave" trees, or the trees that were not cut, were measured for total height and height to live crown using clinometers, and measured for dbh using a standard "D" tape. Also the crown classes and species were recorded.

The basic aim of the study was to determine at what spacing you would get optimal growth from hemlock and spruce.

In conclusion, the experience was well worth taking a quarter off from school. I learned a great deal and saw a great many things.



Paul Bunyan at work.

*And when he fell in whirlwind, he
went down
As when a lordly cedar, green with
boughs,
Goes down with a great shout upon
the hills,
And leaves a lonesome place against
the sky.*

Edwin Maritain

“In respect to this and much more I am hoping to return this summer to a land that is truly God’s Country.”

The above quote was taken from my summer work article written for last year’s *Ames Forester*. I have included it as a sort of extension to this past summer’s events and to emphasize that my hopes and dreams were not left unanswered. When June 1, 1977 rolled around, after a very busy, but rewarding Spring quarter, I was packed and eager to travel the highways and the by-ways that would lead me back to a land that I have come to love, admire, and respect. Yes, I was returning to the land of the sun and the mountains—Avery, Idaho.

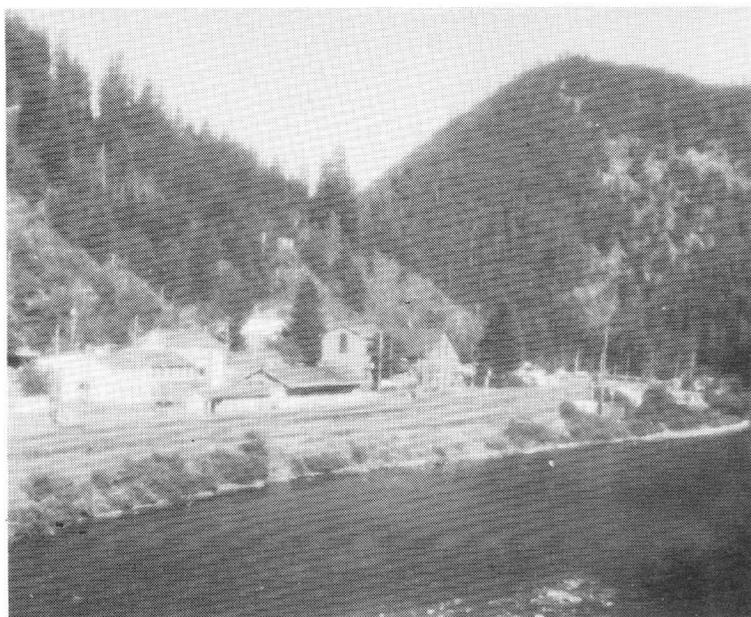
My employment status and position was the same as the summer preceding. However, this summer I was to be living in a far more remote section of the district; The Roundtop Work Center. Roundtop is fifteen miles south of Avery and 2,600 feet higher in elevation. Nestled back

among the Sub-Alpine Fir and the Engelmann Spruce, Roundtop offered facilities capable of supporting 25 to 30 persons. This summer 23 people were stationed at Roundtop including the Avery Fire Crew, K.V Crew, and the timber crew. I was employed with the timber crew and spent most of my time with field work, in and around the Roundtop area.

The job itself centered around all the techniques of pre-sale timber layouts. This involved everything from cruising, marking, and profiling, to actually mapping out the sale. This map would include elevation changes that the engineers would later need in surveying the roads to be built within the sale. Most of the sales were prepared four, five and six years in advance of the time they would go up for bid. The field work always seemed worthwhile when, all the data was laid out in map form, volumes were determined and the roads surveyed, because it was then that we could grasp the over-all importance of our positions.

Working benefits were improved above the previous summer as we were each given the opportunity to test our skills in every category of a timber sale. In years past, each person had only one particular responsibility, i.e., timber marking, or traversing, which often times led to moral problems due to lack of diversity and experience in other areas. I personally was very pleased with the production of our crew this year as was our immediate supervisor. Of course, a little fire fighting on the side always managed to break any cumbersome routine! And fires are one thing the Pacific Northwest and Coastal Regions were not lacking this past summer.

Upon graduation this coming spring I am hopeful that a more permanent position will open up either in forestry or pest management. However, Avery is not a bad alternative for work experience, even if only a six month appointment is available. Only time will tell and patience endure. After all, time is eternal.



Avery, Idaho—God’s Country.



Moon Pass, north boundary of St. Joe.



Round Top Work Center, elevation 4,900 ft., St. Joe National Forest.

A Forester’s Addiction

Bob Houseman

Tree Improvement with the Forest Service

Mike Cloughesy

Driving twenty-three miles over gravel and dirt to buy a beer, seventy miles to get groceries! Having everything you own constantly covered with pumice dust. Sleeping in a tent with no door, no floor, and with a hole in the roof.

Wait a minute, you say. Is this an article about the French Foreign Legion or a forestry summer job? Well, even if I do make it sound rather dismal, living in a Forest Service camp in Central Oregon's Pumice Belt was a new and interesting experience.

I was employed by the Supervisor's Office of the Fremont National Forest, and was to be stationed at movable camps rather than at a district compound or bunkhouse.



Mike's home away from home.

Our crew was given an eighteen-foot travel trailer and a government surplus Army tent. All this was to house six people and serve as an office and cook shack! We camped at Wickiup Springs in a beetle infested stand of Lodgepole pine for the first half of the summer. Around the middle of July we moved camp southeast about thirty miles to the Puddle Springs Work Center. This was located in a beautiful stand of mixed old growth and second growth Ponderosa pine and had the advantages of both electricity and adequate indoor plumbing.

The worst part about living in a camp like this was that the only people you had contact with were the members of your crew. I was fortunate to be on an excellent crew, but it still seemed that I never really went "home" from work. Dinner conversations and most aspects of our social life would invariably degrade into talking shop.

My job title was Forestry Technician and I was working on the Forest's Tree Improvement Program. This mainly involved selecting trees that were supposedly genetically superior and then taking various measurements of them to be fed into the computer. Trees that seemed to be superior were scrutinized carefully for absence of serious insect, disease and mechanical damage, and for clear evidence of cone production. Trees that passed these criteria were compared to other trees in the stand that were of a similar age, were of the same species and relative vigor, and were growing in similar micro-environments. This comparison was based on diameter growth rate. A difference of 20-25% was generally considered to be significant. Diameter growth rate is used as a basis of comparison because the main objective of the Fremont's Improvement Program is to improve volume growth rates. Diameter growth is thought to be directly related to volume growth and is much easier to measure, both quickly and accurately in the field. In stands where there were serious insect and disease problems, and where growth was below average, trees could be chosen on the basis of resistance and form.

After selecting a tree, various stand and tree parameters were measured or estimated, and recorded. These included: species composition, slope, aspect, number of trees per acre, site class, tree height, diameter, age, bark thickness, branch angle, average number of branches per whorl, crown shape, etc. After measurements and observations were made, the tree was located on the appropriate compartment map, legal description was determined, and relocation directions were written. (This last phase was often the most interesting part of the job as I wasn't always right where I thought I was, and the maps and road signs were often in disagreement.) The final stage was to prune and tag the tree, paint on its number, and set a post to aid in relocation if the tree wasn't visible from the road.

All data collected was to be handled by computer. Part of the reason for this was to be able to compare all of the select trees for a given area and determine which should be used for a seed collection to replenish supplies, and in the long run, to determine which trees should be used as material for starting seed orchards. For this reason select trees also had to be reasonably young and vigorous.

After an initial training period, I was given my own "rig" and worked alone, with little supervision, for the rest of the summer. I really liked this at first but it soon became old. My work was checked and reviewed by my superiors from time to time, so I was kept abreast of any shortcomings in the quality or quantity of my output.

All in all, I really enjoyed my job. I was glad to have had the opportunity to use and further develop many of the skills I have learned at ISU, and also to have had the chance to get a start at developing some "tree-sense."

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My Summer in Washington State

Carole Gillespie

“ . . . Purple mountain majesties above the fruited plains . . . ” is an excellent way to describe the area in which I worked this past summer. The area was the West Cascades, and the district was Packwood Ranger District in the Gifford Pinchot National Forest, Packwood, Washington.

Packwood is a small (as compared to my hometown of Cedar Rapids) logging town snuggled in a glacial valley. It is surrounded by the Gifford Pinchot National Forest and is outside Mt. Rainier National Park. A good percentage of the people work for the Forest Service with a percentage of the others working for logging companies.

In the summer, there is quite an influx of people from all over coming into Packwood, to work as either seasonal or summer employees. I was one of the summer employees working the silviculture unit.

My partner, Mary, and I worked on the genetic tree or super tree program. We covered many miles on foot and in the rig checking individual stands for trees that would have a good seed crop and eventually produce superior trees. Along with locating super trees, we also flagged and traversed boundaries, counted cones, fought off black flies and no-see-ums and even planted trees for a day. After about a month and a half of supertrees, I was drafted or was lent to the fire crew.

For a normal Washington summer, it rains most of the time. Unfortunately for the inhabitants of Washington, but happily for those that melt when it rains, the Gifford Pinchot was experiencing a drought along with the rest of the West coast.

With our main fire crews fighting fires in California and fire danger being anywhere from high to extreme, everyone was drafted into the ranks.

Along with the two ten-man fire crews, there was also a Foxtrot crew or the F-Troop as it was fondly called. One of the more dangerous missions F-Troop had to carry out



The view from Carole's front porch.

was the extinguishing of a campfire at the edge of the swimming hole. Unfortunately, two women in bikinis had already got it under control by the time F-Troop had arrived, so a fire line was put around the ashes and scouts were sent to look for sparks

Behind every curve in the road, there was one object that stood above everything else, and that was Mt. Rainier. Mt. Rainier has got to be the biggest pile of rock and ice I have ever seen. Mt. Rainier was beautiful in the

sunlight and awesome at night, but the best thing about it was, I could see it from my front doorstep.

There are many things about Packwood I will never forget; F-Troup, Mt. Rainier, berry pie (yum, yum), and of course all the people I met. Although many of my memories are now getting overlaid with formulas and general busy work associated with school, I will always have a soft spot in my heart for Packwood, Washington.



The day the driers gave out there were clothes hanging everywhere.

Experience With The Soil Conservation Service

Michael L. White

In April of 1977 I was interviewed by the Soil Conservation Service for the position of Student Trainee. With the arrival of summer vacation, I was notified that I was to become an "official" Soil Conservationist. Malvern, Iowa became headquarters and I proceeded there without delay.

Malvern has a population of around 3000 and is located in Mills County, 30 miles east of Omaha, Nebraska. Mills County is unique because of wide differences in the landscape within the county. On the west is the Missouri River Basin, in the center are high wind blown loess hills, and the eastern portion consists of rolling farm land.

The title of Student Trainee encompassed a wide range of job tasks. To cope with my new responsibilities I was given the assistance of two secretaries, a desk, an olive green pick-up and a lovely office shared with five others.

I began the summer as a survey technician. This job consisted of laying out terraces, sewage lagoons, farm ponds, and dams to federal specifications and later checking the construction of the projects to insure the specifications were met. After I began to feel the ropes of the trade, my supervisor assigned me to getting data from the individual farmers on crop residue use. Another survey consisted of obtaining data to determine soil erosion losses within the county.

Field experience did not include everything. As a trainee I was assigned to become familiar with the many different government procedures and specifications of the different programs; and become familiar with the structure and rules of the Soil Conservation Service. Two overnight orientation meetings were required to show the trainees how the Soil Conservation Service (S.C.S.)

operated and what would be expected of us when we began as full time employees.

From the viewpoint of the S.C.S., the student trainee program was a way to evaluate future college graduates and be able to give those students who worked well at their job a position with the S.C.S. upon graduation.

The knowledge gained as an Iowa State Forestry Student became a useful tool with this position. Forestry, surveying, photogrammetry, economics, and agronomy all became basic rudiments in working with the Soil Conservation Service.

It was a rewarding position in which other forestry students should consider as another career alternative.

Grass that is made each year equals the mountains in her past and future;

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