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The Forest Service Takes to the Slopes: The Birth of Utah's Ski Industry and the Role of the Forest Service

By JOSEPH ARAVE

When the Organic Act of 1905 created the U.S. Forest Service, no one could have foreseen the scope of that agency's involvement in Utah's vast array of winter recreation. The charge to the Forest Service upon its creation was to manage our national forest reserves for the greatest good for the greatest number of people. To the managers, the mission of the agency was toward the "economic use of the forest resources guided by principals of scientific forest management"¹ That belief, strongly held by the agency's first chief, Gifford Pinchot, influenced decision-making in the agency for decades. A philosophy of sustained yield and conservation were important to a growing nation that had seen abuse of forest resources during the latter part of the nineteenth century.² Even though many people enjoyed hiking, hunting, camping, and fishing on national forest lands, *Snowbasin chairlift, March 1946.*

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¹ J. Douglas Wellman, *Wildland Recreation Policy* (New York: John Wiley & Sons, 1987), 81.

² *Ibid.*, 68.

to most foresters, managing for the greatest good meant timber, grazing, and watershed management. Forest supervisors and rangers saw their jobs as the management of the forests in a way that would promote economic activity for the benefit of local and national economies. It would be some years before recreation was seen as part of that economic picture. Within the next two decades, however, provisions for recreational uses gradually began to make their way into Forest Service policy.³

Following World War I, many veterans possessed automobiles and knew all about outdoor life. With surplus equipment and the means to travel available to the public, the numbers of people who used national forest lands as a recreational resource soared. The Forest Service found itself in the business of recreation. For instance, in an effort to reduce the danger of fire and the spread of garbage, the agency began to develop campgrounds in 1922.⁴

In January 1915 a handful of Norwegian immigrants officially introduced the sport of ski jumping into Utah. By the 1920s, the sport was rapidly gaining in popularity as a spectator sport.⁵ During the decades of the 1920s and '30s, crowds sometimes numbering in the thousands would thrill to the daring of professional ski jumpers. Many of the Scandinavian jumpers were part of professional teams that toured the country providing exhibitions and competing in tournaments. For most of the general public, professional jumping embodied all they knew of skiing.⁶

At the same time, however, small groups of rugged individuals (such as members of the Wasatch Mountain Club) began to experience firsthand the exhilaration of nature's pristine winter environment. These early winter recreationists ventured into the canyons of the Wasatch Mountains and there discovered the wonders of the high mountains in winter. As they increasingly enjoyed the thrills of downhill skiing, these pioneers worked on making turns with their skis and gradually learned to control them for enjoyment and safety.⁷

The new sport of alpine skiing naturally took participants into the mountainous regions of the state. The majority of beautiful alpine terrain that beckoned the spirits of adventurous skiers was public land under the jurisdiction of the United States Department of Agriculture Forest Service. As the new activity became popular, people began to look for ways to get skiers up the mountain so they could enjoy more time in exhilarating glides down the hills. By the late 1930s, industrious individuals began to devise various means of transporting skiers up the mountain.⁸

Although some in the Forest Service saw the new popularity of skiing as

³ Douglas Knudson, *Outdoor Recreation* (revised ed., New York: Macmillan Publishing, 1984), 270.

⁴ *Ibid.*, 272.

⁵ Alan Engen, *For the Love of Skiing: A Visual History* (Layton, UT: Gibbs Smith, 1998), 32.

⁶ *Ibid.*, 28.

⁷ Interview with Ralph Johnston, Ogden, Utah, July 29, 1991.

⁸ Interview with Jack Green, Salt Lake City, Utah, July 1989; interview with K Smith, Salt Lake City, Utah, June 1989.

an opportunity to promote the use of national forests for recreational purposes and thus benefit the community, others resisted. The U.S. Forest Service was a relatively young agency, and its primary mission from the outset had been to manage for multiple use relating to timber, grazing, and watersheds. While exact motives are unclear, it can only be assumed that the Forest Service was unaccustomed to new activities such as skiing. In some ways, the Forest Service became involved in skiing by default, since the mountainous areas upon which the public wanted to ski were national forest lands.⁹



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Felix C. Koziol.

On the other hand, some officials, in particular Wasatch Forest Supervisor Felix C. Koziol, personally enjoyed the activity. Koziol became a great promoter and supporter of skiing. Enthusiastic about the opportunities for economic benefit to the community, he began to look for sites that could be developed as ski areas. The Forest Service had previously entered into public/private partnerships with other concessionaires. The ski industry was no different. The partnership in those days was simple. The Forest Service permitted the use of the public lands and private interests provided the capital necessary to construct facilities. Although enterprising individuals, seeing the opportunity to make an enjoyable livelihood, had pushed for such a partnership, the role of dynamic and influential individuals in the Forest Service like F. C. Koziol appears to have been a significant contributor.¹⁰

On the Wasatch Forest, Koziol sought to work cooperatively with private interests who desired to develop areas for alpine skiing. To facilitate this effort, he looked for someone with unique expertise to advise his agency. A very clear choice for Koziol was world-renowned skier Alf Engen. Engen had already made his mark as a competitor in the world of ski-jumping, and later he became known as the “father of powder skiing technique.”¹¹ Koziol hired him to scout out potential public lands sites that

⁹ Montgomery M. Atwater, *The Avalanche Hunters* (Philadelphia: Macrae Smith Company, 1968), 6.

¹⁰ *Ibid.*

¹¹ Engen, *For the Love of Skiing*, vii.

could be developed for ski areas. In the 1940–41 edition of the *American Ski Annual*, Koziol reflected on the results of the decision to hire Engen.

Five years ago the Forest Service, recognizing the need for more knowledge, better planning, and expert opinion, employed well-known Alf Engen to help. Alf prospected, investigated, and studied proposed winter developments on scores of suggested places on the Intermountain National Forests. He recommended and planned several of the best, and so from a small beginning, a number of centralized winter sports areas are now being developed by the Forest Service in cooperation with towns, ski clubs, and private individuals.¹²

The first ski area to be developed in cooperation with the Forest Service was Alta. During the latter half of the nineteenth century, Alta, Utah, had been a raucous mining town. In the 1930s, however, little more than a ghost town remained. The lower slopes of the surrounding mountains had been stripped of their timber for use in mining and construction of a town that had once claimed as many as 5,000 residents.¹³ In the mid-1930s, Alf Engen made Alta his first area of investigation. Impressed with what he saw, he recommended the area for ski development.

Encouragement also came from George Watson, self-appointed mayor of the abandoned mining town. Watson saw skiing as the key to the rebirth of the town. The land around Alta was laced with mining claims, most of which were in the possession of Mayor Watson. Anxious to cooperate and move the project forward, he deeded 700 acres of surface rights to the federal government on May 6, 1937. James E. Gurr, supervisor of the Wasatch National Forest at the time, acted on behalf of the government in the transaction. Not long afterward, the Forest Service also received an additional 900 acres from William O'Connor of the American Smelting and Refining company; O'Connor also happened to be a skier.¹⁴

With the transfer of land, progress toward Utah's first lift-served ski area was underway. The Forest Service, taking advantage of Civilian Conservation Corps (CCC) and Works Projects Administration (WPA) labor, built hard-surface roads into the Alta area, which would soon serve thousands of winter recreationists. Local businessmen, led by Joseph Quinney, formed the Alta Winter Sports Association to raise capital for lift construction and other improvements. Within two years of the transfer of deed, the Wasatch National Forest issued the association a permit to operate the Collins single-chair lift.¹⁵

In Logan, Utah, the Mt. Logan Ski Club and Logan City began to develop skiing at Beaver Mountain. Harold Seeholzer, a member of the ski club, purchased the rope tow from Logan City and, with the help of his family, developed Beaver Mountain Ski Area. Seeholzer had a great

¹² *American Ski Annual 1940–41*, 198.

¹³ Alexis Kelner, *Skiing in Utah: A History* (Salt Lake City: 1980), 114.

¹⁴ *A History of the Wasatch-Cache National Forest, 1903–1980* (Washington, D.C.: U.S. Department of Agriculture), 269.

¹⁵ *Ibid.*



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relationship with the forest supervisors and many of the men who served over the years as district rangers on the Cache National Forest. He remembered that they were particularly influential and helpful during the early years in getting roads constructed and in laying out and constructing ski runs.

Alf Engen standing on the snow plow when he was a foreman with the Civilian Conservation Corps.

In the early 1930s Wheeler Basin east of Mt. Ogden was under private ownership. The Ostler Land and Livestock Company used the area for summer cattle range. The basin became seriously denuded due to overgrazing, which in turn threatened the Ogden River watershed. During periods of heavy runoff, silt filled Wheeler Creek and the Ogden River, threatening the Ogden City water supply. In 1938 Ogden City sought a remedy to the problem via a lawsuit that, if successful, would condemn the area and put it under the jurisdiction of the federal government and the U.S. Forest Service. The suit succeeded, and the Forest Service immediately took steps to reclaim the area for watershed protection.¹⁶

That same year Wasatch Forest Supervisor Felix Koziol, Alf Engen, and other Forest Service officials skied into the Wheeler Basin area to assess its potential as a winter recreation site. The group came to a favorable consensus, and during the summer and fall of 1940 the Forest Service funded the

¹⁶ Engen, *For the Love of Skiing*, 104.

construction of a road into the area, built by the Civilian Conservation Corps under the direction of CCC supervisor Alf Engen. On-the-ground involvement of the Forest Service, however, was not limited to watershed management and road building. The following summer CCC workers, under the supervision of the Forest Service, cut ski runs for the new area, which was operated as a cooperative venture between the Forest Service and Ogden.¹⁷

Felix Koziol clearly believed that Snowbasin, which lay within the Wheeler Basin drainage, had the potential to become a major winter recreation destination. In the 1941–42 issue of the *Western Ski Annual*, he enthusiastically praised the positive attributes of the area.

Snowbasin offers one of the few places where two, three, and four-way tournaments can be held within the compact limits of the same ski area.... Snowbasin has a combination of many natural advantages that is hard to find. There is plenty of snow [and] the altitude is not too high to cause trouble from excessive storms.¹⁸

According to snow ranger and avalanche researcher Monty Atwater, Felix Koziol was somewhat unique in the Forest Service for his time. Referring to Koziol and his enthusiastic support of Forest Service skiing programs, Atwater said that “he was a skiing forester, a rare thing in those days”; evidently, even rarer still was the fact that he was a skiing supervisor!¹⁹

The Brighton area at the top of Big Cottonwood had been a popular summer recreational destination for decades. During the nineteen-teens and twenties, members of the Wasatch Mountain Club and others began to make weekend ski excursions into the Brighton basin. Embarking from Park City, the hardy winter recreationists would ski up Thaynes Canyon, over Scott’s Pass, and down into Brighton. They would typically stay overnight at Alfred Launer’s cabin, which he converted into a lodge for summer and winter recreationists. The skiers would enjoy a day of skiing, which at that time usually meant no more than a handful of short runs, and then return via the same route on Sunday.²⁰

The area soon gained a reputation for its winter recreational offerings. F. C. Koziol gladly promoted the ski possibilities in the Brighton area. In the late 1930s he began working with K Smith and a group of businessmen who had already begun operating a rope tow. Smith had skied into the Brighton area with friends in the Wasatch Mountain Club and loved the area.²¹ In 1937 the county began plowing the road up Big Cottonwood Canyon as far as the Brighton Store. That same year, the Alpine Ski Club built a rope tow. It was poorly designed and didn’t work well. However, Koziol was ebullient about the winter sports activities taking place in Brighton.

¹⁷ Interview with Dean Roberts, Solitude, Utah, October 25, 1989.

¹⁸ Engen, *For the Love of Skiing*, 104.

¹⁹ Atwater, *The Avalanche Hunters*, 3.

²⁰ Interview with Paul and Betty Dinwoodie, Salt Lake City, Utah, July 1989.

²¹ Smith interview. K Smith was born Jesse Kimball Smith but was known by no other name than “K” his entire life.

“The National Forests in a number of locations are fast becoming winter sports centers,” he wrote in a *Salt Lake Tribune* article titled “Forest Service Takes Lead in Regional Winter Sports.” “The most used and highly developed is Big Cottonwood Canyon in the Wasatch National Forest. The location is superb. Two and a half miles of ski trails have been provided to augment natural openings in the forest and connecting with other established trails.” He went on to say that “the area under development by the Forest Service in Big Cottonwood Canyon is an indicator of what is needed and what can be done.”²² Still, at the time, there were no reliable mechanical means of transporting skiers up the hill.

In 1938 Smith teamed up with Bill Eccles and others to build a 1,400-foot T-bar lift that worked very well. Additionally, he built an ice rink. The area did quite well for a couple of years. When World War II began, K Smith enlisted, and in 1943 he decided to sell his tow to Zane Doyle, a move that he later considered to be among the greatest mistakes of his life. Doyle, who worked in the meat-cutting business and desperately wanted out, had shown interest in the area for some time but considered the initial asking price to be out of the question. The price came down. With financial help from his family, Doyle was able to purchase the lift. He recalled that most people thought he was crazy to pay the kind of money he did for something that was on land that he didn’t own. But Doyle “hated the meat-cutting business and he wanted to see if he could make a go of it.”²³

According to Doyle, F.C. Koziol and District Ranger W. E. Tangren were fair and helpful. Even though there were disagreements, he had a good relationship with the Forest Service and was able to work out differences. According to Ray Linqvist, snow ranger on the Wasatch from 1952 to 1986, Doyle and Koziol had a good personal relationship, and whenever the forest supervisor came to visit, Doyle made sure that he had some of his friend’s favorite beverage in the warming hut to facilitate discussion. Through hard work combined with assistance and cooperation from Felix Koziol and others in the Forest Service, Doyle developed Brighton into a ski area that became a local treasure.²⁴

In 1938 the Forest Service distributed a pamphlet that summarized the many winter recreation opportunities of the Intermountain region. The pamphlet provided the public information about dozens of recreational sites on the region’s twenty-four different forests, and it gave information on such things as the closest ranger station, ski runs, capacity of parking areas, the availability of a ski lift or ski instruction, the closest town, shelter or lodging, and the difficulty of the terrain. The introduction to the pamphlet announced that

Thousands of snow-covered hills and slopes in the Intermountain Region beckon the

²² *Salt Lake Tribune*, February 7, 1937.

²³ Interview with Zane Doyle, Salt Lake City, Utah, July 11, 1989.

²⁴ *Ibid.*

winter sports enthusiasts.... But where are the best ski and toboggan hills within the Intermountain Region? How can we get to these choice spots? Well, that is the purpose of this pamphlet—to answer these questions and add other information that you want to know. Let us help you plan your winter trip.²⁵

Although skiing was many years away from being considered an industry, the Forest Service seemed to take pride in the wide array of winter recreation resources on public forest lands.

In the 1940–41 *American Ski Annual*, published by the National Ski Association, Felix Koziol proudly reviewed the accomplishments of the newly formed Intermountain Division of the National Ski Association. Prior to that year, Utah, Idaho, and part of Wyoming had been included in the Colorado-based Rocky Mountain Division.

The winter of 1939–40 saw over a third of a million visitors to Intermountain winter play-fields on National Forests. Alta, of the Wasatch Forest near Salt Lake City, alone drew 92,000. It is a big job that the Forest Service has ahead of it to provide for winter sports lovers the essentials of shelter, sanitation, trails, and supervision. With the help of the CCC and the WPA, eight areas in Idaho, four in Nevada, three in western Wyoming, and ten in Utah now offer some facilities to visitors. Ski lifts and tows are rapidly being added, but entirely by private capital.²⁶

The following passage, almost poetic in tone, indicates Koziol's love for the sport of skiing and his commitment to the Forest Service's role in its success.

And so a new spirit has come to prevail on the Intermountain country when the days become short and the sun is low on the southern horizon.... For as November and December arrive, with them comes a new wealth to the land, a richness in snow, cold dry powder snow, covering deeply a thousand hills and therein the National Forests play a new part.²⁷

Apparently alpine skiing was to be a permanent part of the Forest Service winter sports agenda.

Because the Forest Service enthusiastically supported and promoted alpine skiing, by default it became obligated to protect recreationists from avalanche danger insofar as possible. Avalanches have existed since snow and mountains have existed, and the danger of avalanche has threatened humans whenever they have lived close to snow and mountains. In the villages of the European Alps those conditions have long been satisfied, and the results from time to time have been disastrous.²⁸ Those conditions were also present when the town of Alta was a rugged silver mining town in the late nineteenth century, and on several occasions the town and its residents experienced the destructive power that avalanches can inflict. When a variety of factors led to the end of mining in the Alta area, the avalanche

²⁵ *Winter Sports in the National Forests of the Intermountain Region*, USDA Forest Service pamphlet, 1938. Copy available at the Utah State Historical Society.

²⁶ *American Ski Annual*, 1940–41, 198.

²⁷ *Ibid.*, 199.

²⁸ Atwater, *The Avalanche Hunters*, xiii.

threat to humans, who were no longer in proximity to the danger, was drastically reduced. However, the sudden growth and popularity of alpine skiing again placed people close to the danger.²⁹

Although during the 1970s and '80s ski areas and the state highway department gradually assumed the work of avalanche control, when the Forest Service first began to promote winter recreation there were no ski areas and no lifts. The responsibility for snow safety therefore fell to the Forest Service. During the summers, the Forest Service had assumed a primary role in protecting the public from such large-scale disasters as fire and floods on Forest Service lands. Therefore, the Forest Service, as administrator of the land, felt obligated to protect the skiing public from winter's hazard—avalanche.³⁰

Also, by the time the ski areas began to be formed, the Forest Service had developed expertise in snow safety and avalanche work that the fledgling ski areas simply did not have. Early in the 1930s District Ranger W.E. Tangren began observing avalanches and when they occurred. These observations began a database of information to which others would add during ensuing years. District rangers and snow rangers drew from this information and their personal experiences in order to make critical decisions regarding the safety of the public.³¹

Not long after Alta opened for business in 1939, the Forest Service hired Alf Engen's brother Sverre as its first snow ranger. Sverre assumed the task of learning as much as he could about avalanches and when they were likely to occur. He made observations concerning the weather, dug snow pits, and gathered as much information about avalanches and the conditions that created them as the era's instrumentation and knowledge would allow.³²

Shortly after World War II, Forest Supervisor Koziol hired Monty Atwater, a veteran of the Tenth Mountain Division, to replace Sverre Engen, who had been named the director of the Alta ski school. Atwater had learned of the position from Sverre, who was a friend of his. At the time, Koziol maintained that Europeans simply accepted a certain number of deaths each year from avalanche as inevitable. Atwater said that Koziol made it plain to him that Koziol, "as the Forest Service's custodian and sponsor of the first truly alpine ski area in the United States, was not prepared to accept any European-style casualty list" and that Atwater had been hired to prevent such a thing.³³

Monty Atwater had learned something about artillery and snow from his experiences as a Tenth Mountain trooper in Europe. As snow ranger he assigned priorities to his responsibilities: first, immediate recognition of

²⁹ *Ibid.*, xv.

³⁰ Interview with John Hoagland, Salt Lake City, Utah, June 23, 1998.

³¹ Atwater, *The Avalanche Hunters*, 6.

³² Engen, *For the Love of Skiing*, 84.

³³ Atwater, *The Avalanche Hunters*, 6.



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hazard; second, reduction of hazard; third, basic research if he had any time left.³⁴ After only a few months, he received a full initiation into avalanche rescue. On the afternoon of December 27, shortly before Alta's lift was to shut down for the day, Monty received word of an avalanche accident. Three high school boys who had been camping in an old mine shack since Christmas Day had come down the mountain to the Snowpine shelter at the base of Alta for water. There had been a heavy, wind-driven snowstorm that day. The boys had been warned not to return to the cabin. However, they chose to ignore the warning and on the way back, one of the boys was buried in a slide. One stayed to search and the third went for help. Fortunately, rescuers found the buried teenager alive and successfully evacuated him to safety. The boy had been lucky.³⁵

Following that experience, Atwater reflected on four factors that, despite the confusion, had contributed to the success of that rescue. One: the questioning of the survivors in order to gain information on the victim's location. Two: good leadership. As luck would have it, Alf and Sverre Engen, along with another experienced patrolman, Ted de Boer, were first on the scene and calmly headed up the rescue effort. All were experienced

³⁴ Montgomery Atwater, *Avalanche Handbook* (Washington, D.C.: U.S. Department of Agriculture, 1952), 12.

³⁵ Atwater, *Avalanche Hunters*, 14.

in the ways of the mountains. Three: speed in making the search. Four: knowledge of the point where the victim was last seen. The rescuers found the boy somewhere on the fall line below that point.³⁶

Atwater also conducted research. He referred to his efforts as only the first stage of avalanche research, but his observations did result in information that proved useful. Especially at first, his research was pragmatic, attempting to provide “the administrator in the field with reliable methods of estimating avalanche hazard. There is no thought in this objective of predicting occurrence exactly, either in time or location.”³⁷ Atwater focused his efforts primarily on preventing accidents. Through his data gathering and personal experiences in directing what became the first avalanche research and observation center in the western hemisphere, he advanced the science of snow safety and added to the database of information, helping snow rangers protect the public from the potential devastation of avalanches. The “ten contributory factors”³⁸ he identified were probably his greatest contribution to avalanche forecasting. These factors were: (1) old snow depth, (2) old snow stability, (3) old snow surface, (4) new snow amount, (5) new snow type, (6) new snow density, (7) snowfall intensity, (8) wind speed and direction, (9) temperature, and (10) settlement.³⁹ In 1948 he published the first of “The Alta Avalanche Studies.” It was widely distributed as the only comprehensive work of its kind in the country. The studies conducted at Alta proved to be applicable wherever snow fell on mountains.

The most powerful tool that Atwater had at his disposal was the authority to close an area. Of course this authority, when exercised, was not always popular. Ski area operators wanted to make money, skiers wanted to ski, and both groups often resented the Forest Service because of what they sometimes viewed as arbitrary authority. But because the Forest Service had jurisdiction, it had assumed the awesome responsibility of protecting the public from avalanche danger, and the snow rangers took the responsibility seriously.⁴⁰

Monty Atwater worked hard and accomplished much, but he was primarily a writer and a ski mountaineer; by his own admission he was no true scientist. However, a scientist joined him in 1952 when Ed LaChappelle came on the team at the Alta Research Center. LaChappelle was a glaciologist and physicist by training and education. He soon proved to be a capable researcher and administrator. In *The Avalanche Hunters* Monty Atwater maintains that “the man that should have been there in the first place came to Alta in 1952–53. To describe Ed LaChappelle is to write

³⁶ Ibid.

³⁷ Atwater, *Avalanche Handbook*, 46.

³⁸ Ibid., 47.

³⁹ Ibid.

⁴⁰ Atwater, *The Avalanche Hunters*, 6.



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the job specifications for an avalanche researcher: graduate physicist, glaciologist with a year's study at the (Swiss) Avalanche Institute, skilled craftsman in the shop, expert ski mountaineer.⁴¹

Members of the Avalanche School at Alta.

According to Atwater, La Chapelle came at a particularly opportune time. The Alta ski area was expanding. There were more buildings, lifts, and people to protect. To take care of a burgeoning administrative load and maintain any kind of research program had become too much for one person. Because of his experience in Europe, LaChapelle was interested in snow cover. Atwater said he himself had neglected the subject for various reasons, "not the least of them being my allergy to scoop shovels"⁴²

Thanks to John Herbert, an influential Forest Service administrator in Washington, D.C. and a true friend of the avalanche research program, Atwater and LaChappelle got what they needed to create a shop of their own. LaChappelle, a highly skilled craftsman, was able to engineer and produce gadgets that he invented to collect data and facilitate research. The two set up a snow study plot on which they installed various data-gathering instruments and dug snow pits, a valuable technique for viewing the history of the snow cover and the condition of the base layer by layer.⁴³

In 1949 Koziol, Atwater, and district ranger Tangren taught the first

⁴¹ Ibid., 114.

⁴² Ibid.

⁴³ Ibid. Herbert was assistant director of Recreation and Lands for the Forest Service.

Avalanche School at Alta. The students were Forest Service employees, most likely snow rangers and district rangers from Forest Service offices around the West. The Avalanche School was initiated in order to share the knowledge gained at Alta, and before long, officials from other agencies began attending the classes for specialized training.⁴⁴ In the early years all of the major advances in avalanche research in the U.S. happened under the direction of the Forest Service along Utah's Wasatch Front. The Alta Avalanche School eventually became the National Avalanche School, located near Reno, Nevada.

Also in 1949 Atwater and company first used artillery for avalanche control work. Of course, the Forest Service owned no artillery. Enter the Utah National Guard: the members of the Guard were happy to oblige, and Captain Elkins of the Guard did the actual firing of a 75mm howitzer. The new method was much safer than the practice of skiing to the edges of unstable slopes and setting hand-charges. Higher up the military hierarchy, however, the mood was not so enthusiastic about the non-military use of the big guns. Atwater and the snow rangers considered these guns a godsend, and once again John Herbert in Washington became a key advocate and succeeded in helping establish an artillery program. Eventually, the weaponry found a permanent home at Alta, although to this day all ammunition comes from the military and is closely monitored and controlled by the Forest Service and the U.S. Army.⁴⁵

The avalanche research program continued to make great strides in snow science under the leadership of Monty Atwater and the genius of Ed LaChappelle. Atwater left the Alta center when he was offered a position in avalanche control and monitoring at the 1960 Winter Olympics in Squaw Valley, California. LaChappelle continued the research; in 1966 University of Utah graduate student Ron Perla joined him. Under the direction of the two skiing scholars the research program flourished and the Alta Avalanche Study Center produced copious publications.⁴⁶

Interestingly enough, all of the research activity coming out of the Alta Center began to attract more attention from the research branch of the Forest Service. The U.S. Forest Service is divided into three main sections: the National Forest System, Research, and State and Private Forestry. Administratively, the research taking place at Alta was part of the National Forest System. According to Ed LaChappelle, the research had been allowed at Alta under the auspices of "Administrative Studies."⁴⁷

By the late sixties, the administration decided to transfer avalanche research activities to the regional research branch office at Fort Collins and close down the Alta Avalanche Research Center. According to former snow

⁴⁴ Mark Kalitowski, "The Avalanche History of Alta," *Avalanche Review*, 7:3 (1988), 3.

⁴⁵ *Ibid.*, and interview with David Ream and Bruce Tremper, Salt Lake City, Utah, August 24, 2001.

⁴⁶ Kalitowski, "The Avalanche History of Alta," 8.

⁴⁷ *Ibid.*, 8

ranger David Ream and Avalanche Forecast Center director Bruce Tremper, two Forest Service employees very much concerned with public safety and the state of knowledge concerning avalanches, the move, although understandable, was “a real shame.” The tragedy came from the fact that when the Alta Center closed in 1972, Ed LaChapelle left for an academic career at the University of Washington, and a great deal of knowledge on the subject either left with LaChapelle or was lost because of the mishandling and eventual disappearance of records. This event, however, in no way discounts the great deal of progress the Forest Service made during the Alta years toward the goal of protecting the public from the potential and real destructive forces of avalanches.⁴⁸

After the closing of the Alta Avalanche Study Center, many Forest Service snow rangers on the Wasatch and Cache national forests still carried out avalanche control work. However, as the ski industry grew and gained sophistication during the 1950s, '60s, and '70s, ski patrols became better trained, more professional, and better educated in the ways of snow science and avalanche control. Ski patrollers from the various ski areas operating on the national forests, worked essentially shoulder-to-shoulder with the snow rangers to control avalanches and protect the skiing public. In fact, in some cases ski area patrollers were former snow rangers or vice versa.⁴⁹

As ski areas in Utah and throughout the nation continued to grow, local snow rangers and district rangers took on increased administrative roles in the public-private partnership of providing recreation opportunities. The administration of ski area permits required more planning and oversight from Forest Service officials, and the job of the snow ranger was moving from on-the-ground “avalanche busting” to record-keeping and monitoring. Ski patrollers were learning about avalanche control from on-the-job training or from Forest Service-sponsored training. Eventually, it simply made sense to turn over avalanche control work to the ski patrols of the ski areas and in some cases to state highway departments as well.⁵⁰

Today, the U.S. Forest Service is still very much involved in providing winter recreation opportunities to the public. Its part of the public-private partnership still involves safety, providing expertise, and experience in snow science. Its role today, however, differs from its function when the ski industry was not yet an industry. The current role involves assisting ski areas in planning to mitigate impacts to vegetation, soils, and water and to ensure resource protection. It also involves ensuring that the public voice is heard.⁵¹

It would be hard to overstate the contributions of Forest Service programs and policies—as well as the collective contributions of dedicated

⁴⁸ Ream and Tremper interview.

⁴⁹ Interview with Ray Linquist, Dubois, Wyoming, September 21, 2001.

⁵⁰ Hoagland Interview.

⁵¹ Interview with John Hoagland and Chip Sibbensen, Salt Lake City, Utah, October 2, 2001.

and skilled individuals—in the area of avalanche science. The sheer volume of works produced, papers published, training given, and practical experience gained indicates how much was done during the study years. Since their initial involvement, Forest Service officials have spent countless hours and tremendous effort in promoting skiing on our national forests and in protecting the skiers who enjoy the slopes.

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