Contracting for Endangered Species Recovery

By Greg Schildwachter
B&C Research Assistant

A Research Project of the B&C Wildlife Conservation Program

Two major criticisms of the Endangered Species Act are that it's unfair and it's not successful. The law imposes on private landowners a legal obligation to support wildlife for the benefit of all Americans: if an endangered species is found on private land, the management of that land immediately must be redesigned, at the landowner's cost, to protect that species. Unfair, claim the critics. Also, the effectiveness of the program is questionable. Although the best measure of performance is debated, the basic statistics are telling: after more than 20 years, nearly 5,000 species are listed or proposed for listing as threatened or endangered, nearly 500 are covered by an approved recovery plan, and 7 have been recovered from risk of extinction. This is not a recovery policy, say critics, it's a listing policy.

Recognizing these problems, many who are debating reauthorization of the Act have proposed creating incentives to motivate landowners to manage land favorably for endangered species. Incentives will allow landowners a choice whether to participate and, it is expected, incentives would secure more habitat for recovery efforts and accomplish more recovery. Most proposals offer to dole out compensation such as tax relief or subsidies from new or reinvented public conservation programs.

An alternative is to include private biologists in the fight against extinction. If people could hire their own recovery expert, then the expert could find the owners of necessary habitat and could offer those people a financial incentive to see their land as the valuable raw material of recovery. Voluntary agreements—that is to say, contracts—would bring together the customer, the recovery agent, and the habitat owner. Contract law would hold them accountable to one another. The resulting system of contracts would combine the people willing to pay for the work, the people capable of doing the work, and the people who own the raw material for the work.

It is a radical departure from the Endangered Species Program, but it is not very different from other forms of conservation practiced today, and it might help solve the problems of equity and effectiveness.

My approach to the question of whether contracts can accelerate recovery is to analyze existing contracts for other forms of conservation. The contracts known best by conservationists probably are the conservation easement and the contract of the Conservation Reserve Program (CRP). Using a CRP contract, the government leases erodible cropland from landowners so that the land will be planted in soil-retaining vegetation and left fallow, usually for ten years. Conservation easements are contracts used often by The Nature Conservancy to control the development of land. TNC negotiates ownership of specific rights to a property, as defined in the contract, whereby the landowner continues to own most

rights to the land, but trades away rights to convert habitat to other uses. The landowner's compensation usually is tax relief based on the appraised value of the development rights, which are donated to the conservation group.

A less familiar contract that resembles CRP is employed by Delta Waterfowl. Unlike the tax revenue that drives the Department of Agriculture, customer demand drives Delta Waterfowl's program. People desiring stronger waterfowl populations pay Delta to lease private upland nesting habitat in the prairie pothole regions of North America. By sparing these areas from the plow, Delta enhances waterfowl reproduction, and must satisfy its contributors with the quality of its service.

A recent program of Defenders of Wildlife (DOW) suggests how the contracting idea might work toward private recovery of endangered species. DOW pays a $5,000 reward to western Montana ranchers whose land supports an active den of gray wolves. The implicit contract here is that ranchers give up *de facto* control over the survival of wolves on their land in exchange for DOW's best guess at the market rate for successful dens.

Lease payments that protect habitat and rewards for obeying the law do not constitute an industry promoting recovery of endangered species, but they tell of the possibilities for such an industry. The significance of these examples is the willingness of private customers to support the cost of wildlife conservation, and recovery in particular. Whether this willingness to pay can be channeled by entrepreneurs into intensive services like reintroduction is a question I address in my research. My analysis is revealing the general features of market approaches and suggesting some factors that will determine how far the contracting idea will go.

The first lesson I learned is to think of contracts in general, simple terms. A contract is an agreement between two or more people to do something. Usually, these agreements are written out and protected by law, but, as I learned, formal contracts are only one type of contract available to conservationists.

This basic view of contracts illuminates their most appealing features: they are voluntary and effective. Offering people the option to join a contract could resolve at least some of the acrimony between private landowners and advocates of endangered species recovery. Both parties would have an option, not an obligation, to accept the terms of a contract. When people join in contracts, they can be highly effective in organizing enormous tasks. Consider the diversity of agricultural and logistical knowledge required to support a supermarket. The convenience of a supermarket is possible because we pay grocers, who, in turn, pay truckers, who reach terms with producers of all types of produce from all over the world. This analogy suggests that a person seeking recovery of species might be able to organize the necessary experts and owners of habitat through a system of contracts.

Though the promise of contracting is high, the narrowness of its practice belies its problems. A large part of the problem is political. Europeans who became colonists of North America had escaped a land of royal forests where hunting and fishing were reserved. The freedom of access to wildlife is part of the liberty on which this country's vision is based. As the country grew, the egalitarian notion of free access to wildlife was strengthened by technical advantages of public wildlife management and moved us toward the institution of public conservation that we have today.

Political opposition to private conservation today seems based on the historical fear of elitist monopolization of wildlife. One opponent says, "The basic...principle behind a 'free market society' is an anti-democratic one: that peoples' preferences, whatever they may be, should be accepted and given an importance in proportion to the dollars that back them up" (Power, T. M., and P. Rauber. 1993. The price of everything. Sierra 78:87-96).

Adding to the political obstacles are economic barriers to trade. No less an economist than Nobel prize winner Ronald Coase pioneered the economics of contracting. The essence of Dr. Coase's findings is, like all good ideas, simple in hindsight. We choose to contract when arranging contracts is cheaper than organizing a production team (such as a firm or government bureau). In short, we choose between doing things within a group or with trading partners depending on which is cheaper to arrange. Government programs have been organized to provide things that we have not been able to market. Markets form when arranging contracts is possible.

Coase influenced economic thought by focusing on the costs of arranging contracts. Often called transaction costs, these are the costs of: learning acceptable prices and quality, negotiating, monitoring performance, and enforcing contracts. The size of transaction costs depend heavily on whether laws, courts, producers, consumers and other players in society are established, reliable, and willing to trade. As Dr. Coase pointed out, "...it is necessary to have all the institutions which make a market possible" (quoted in The Wall Street Journal, 17 Oct 91, p.A22).

The fact that contracts for conservation exist at all shows that some transaction costs are affordable, but it is not clear whether the costs of contracting for recovery are within reach. If we cannot meet these costs, then we likely will continue trying to organize the task publicly. The results of my early analyses suggest that four things will play heavily on the success of contracting for endangered species recovery. These four things are the measure of recovery, the parties involved in recovery, the formality of the contracts, and the state of technology.

MEASURING RECOVERY

Trade is based on measurement, and measures of recovery are costly. A recovered species is one with a high probability of persisting for a long time. Ideally, we would like to know the probability and the horizon, for example, to know that the gray wolf is 90% likely to persist for 300 years. These numbers can be estimated using current technology and methods, but the cost probably is beyond the hypothetical private recovery agent.

Consider the simple analogy of the scale at a delicatessen. The scale is purchased by the vendor and this cost is passed to the customer. The customer pays because the price of deli-meat is reasonable and the scale makes clear the value of the transaction. The technology necessary to measure the likelihood that a species will persist is like the scale,

It is a radical departure from the Endangered Species Program, but it is not very different from other forms of conservation practiced today, and it might help solve the problems of equity and effectiveness.

Contracting for Endangered Species Recovery

Greg Schildwachter joined the B&C Wildlife Conservation Program in January, 1994. His research, which will be completed for his PhD dissertation, follows from his field experience with the Red Wolf Recovery Program and the Listed Cats of Arizona and Texas Recovery Program.

Below: Landowner, Gus Maghilke, and the author, right, Greg Schildwachter, discuss how the use of friendly agreements can increase numbers of endangered species on private land.

but much more expensive and much less certain. Customers of recovery might not be willing to pay that much for so little certainty.

To reduce the cost of measuring conservation values, surrogate measures often are used. The purpose of CRP contracts is to purchase soil-stability, the opposite of erosion. The Department of Agriculture, however, does not measure reduction in erosion as the basis for its lease payment. Instead, it counts the number of acres on which soil-retaining vegetation has been established. It is possible to measure sediment in runoff from fields, but that is more expensive than assuming (quite safely, in this case) that the vegetation will do the job.

Recovery and its surrogate measures will all reflect something about the likelihood of a species persisting, but we will get only what we pay for. Two previously mentioned examples illustrate cheaper ways of measuring recovery. The Defenders of Wildlife reward program, for example, is based on demonstrating the current existence of wolves, which is necessary but not sufficient to ensure future existence. We can be more certain of future existence if we lease habitat for endangered species, as Delta Waterfowl does for waterfowl, but this, too, falls short of population analysis in telling us how much recovery we are purchasing.

Parties to a Contract for Recovery

The success of contracting will depend, in part, on the people to be included in the arrangement. We do not want just anyone taking the responsibility of managing extinction, but current law prohibits everyone who is not the U.S. Fish and Wildlife Service. The Service holds sole authority to capture and handle terrestrial endangered species; therefore, there is no authorized recovery agent whom you could pay to conduct a reintroduction of wolves. This is what restricts the entrepreneurial vision of Defenders of Wildlife.

The government could maintain oversight on a market of recovery agents by modifying a game-management strategy that several western states now use. As this strategy is employed in Colorado, qualifying landowners are permitted to buy an allotment of big-game hunting tags. In addition to purchasing the tags, the landowners must admit a certain number of public hunters to their private hunting grounds. The landowners' earn their compensation by retailing their private tags at any price the market will bear.

Generally speaking, this strategy establishes a franchise for private conservation interests. By meeting the eligibility requirements of the government and paying a fee, recovery agents would be screened for competency and put in need of making their money back by satisfying customers.

Formality of Contracts for Recovery

A recovery agent will face a daunting task in arranging contracts with the numerous landowners who live within the range of a plant or animal species. One means of overcoming the cost of all this negotiation is to sacrifice formality where appropriate. The Nature Conservancy relies on hand-shake agreements when this type of contract covers their needs. On the other extreme, TNC purchases property when complete control over the land management is required to meet their goals. The conservation easement is an example of an entire category of contracts where only limited interests in the property are negotiated. By saving money through hand-shake agreements, TNC can spend more where formality is critical.

Technology of Recovery

A good example of how technology enhances contracting is historical. One of the reasons that the American frontier is remembered for the six-gun is that contracting was not feasible. The primary industry was beef, and beef producers lacked clearly-defined rights to rangeland. Ownership of land was defined by one's ability to convince one's neighbor. Six-guns were more convincing than vague boundaries on the open range until barbed-wire was invented. The new material made fencing affordable and practical, and clarified land ownership. The invention of the branding iron and the codification of brands also strengthened contracts in the beef industry as people could be more certain of ownership of particular animals.

It has been said that genius is less the ability to form new ideas than the ability to escape old ones. Fencing does not fit in my vision of contracting for recovery, but the future will be affected by some sort of technology that clarifies ownership or improves measurement. We see satellites, computers, fiber-optics, and other gadgetry transforming conservation, but I believe that the breakthrough depends more on the desire to look for a way than it does on what we can see at present.

Conclusion

This preliminary research has given me some grist for reflection. I am impressed by the possibility that contracting may enhance our commitment to conservation. Like all Americans, conservationists generally complain, at least a little, when we must take personal, financial responsibility for things that previously were free. Nevertheless, conservationists have repeatedly accepted the responsibility. We have not always been required to purchase a hunting license, nor the associated stamp collection, nor have we always paid a special tax on our equipment, but we do these things now because we see the necessity for the work this money funds. If contracting for recovery begins in earnest, then we will face another step toward direct, private support for a job we claim to value. I trust that conservationists will once again prove true.

INTRODUCTION

By Francis P. Farquhar

In J.M. Hutchings' compendium of Yosemite lore, "In the Heart of the Sierras," published in 1886, there is an account of "A Thrilling Adventure," which begins as follows:

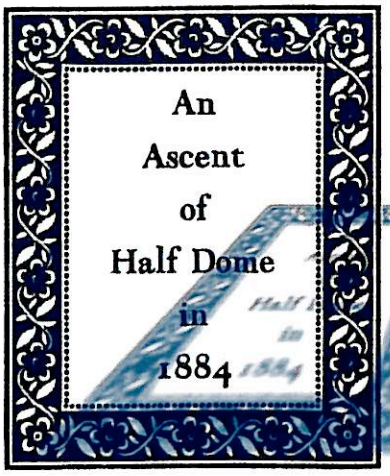
"During the severe winter of 1883-84 the ice and snow sliding down the smooth back of the great Half Dome, carried with it over four hundred feet of the rope Anderson had put up with so much care and risk, and several of the iron eye-bolts with it. This deprived every enthusiastic climber of the pleasure of ascending to its wondrous summit, and of obtaining the unequaled view from that glorious standpoint. No one seemed imbued with sufficient ambitious courage to replace it — Anderson having passed away to his rest.

"But, just after sunset, one evening of the ensuing summer, every resident of Valley, familiar with the fact of the rope's removal, was startled by the sight of a blazing fire upon its utmost crest; and all kinds of suppositious theories were indulged in concerning such phenomena. No one knew of any one contemplating so hazardous a venture. What could it mean?

"Eventually it transpired that two young gentlemen, who were summering in the Sierras, hunting, fishing, reading, and sketching, had been missed some days from their camping ground in the Valley; and, therefore, there was the possibility that these might have unknowingly attempted to ascend it, and succeeded. But that possibility shared the companionship of another, which filled every mind with consternation; that they were up there, and could not come down; that the fire seen was at once a signal of distress as well as of success, and a call for help.

"Before daylight the following morning, therefore, four of us, well supplied with ropes, extra bolts, and other essentials, were upon the way for their deliverance. At Snow's, however, we met the daring adventurers; and found that, although they had made the perilous climb up, they had also accomplished the descent in perfect safety. These twin heroes were Mr. Alden Sampson, of New York City, and Mr. A.P. Proctor, of Colorado.

Phimister Proctor, long known in Europe and throughout America for his dynamic sculptures, has recently, by request, written his own version of the "thrilling adventure."



By A. Phimister Proctor
San Francisco 1945

After a good summer and fall of sketching at Grand Lake and Flattop Mountain my horses' heads were, in the autumn of 1883, pointed toward Denver. I had taken a studio on Laramie Street preparatory to a winter's work in engraving and painting, and was about ready to put out my shingle when, to my surprise, Alden Sampson, of New York, with whom I had been on a couple of hunting trips, dropped in. He was anxious for a sketching and hunting trip and invited me to join him. As prospects for making a living in Denver that winter were exceedingly slim, I accepted the invitation with alacrity. It was December, however, and the Rockies were out of the question and Mexico at that time was infested with bandits. We finally decided on California. I looked forward to new scenes for sketching, new experiences, and some hunting. So, with sketching and hunting outfits, we boarded a Santa Fe train for Los Angeles.

In those days Los Angeles was a picturesque, semi-Mexican town. Its streets were paved with mud ankle deep. We stayed at a hotel with a patio filled with tropical fruit and flowers. Having just come out of the Rockies with their two or more feet of snow, we found the contrast striking. Where the finest buildings now are, were most of the corrals where we bought our horses. We chose five; Spider, Buck, Pinto, Pink, and Rattlesnake — "Rattler," for short. The last was a snake, for sure.

We left Los Angeles as soon as we had assembled our paraphernalia. Our first night out of Los Angeles was spent in Pasadena. I can remember only half a dozen houses in the place then, but, even so, pack horses were quite a novelty, and we created some excitement. We had decided to go up the Wilson Trail until the rainy season was over, and the next afternoon saw our outfit going up the zig-zags.

After a pleasant stay of a couple of months on the Wilson Trail, we packed into the Mojave desert, hunting antelope and sketching. In six months we traveled 1,500 miles through California and wound up in Yosemite.

"That's Half Dome," said a voice, "right across the Valley." I was sitting on Overhanging Rock, with my feet hanging over the Yosemite Valley, 3,000 feet below. Turning I saw, standing near by, a man who turned out to be Galen Clark, one of the pioneers of the valley. He told us how, several years before, an intrepid sailor named Anderson had with great labor and danger put up a rope cable on Half Dome. A year or so before our advent, he said, Anderson had died, and during the past winter an avalanche had taken down most of his cable and had torn out many of its supporting pins. "Now," he said, "we are waiting for some Swiss Alpine climbers to come over and replace the rope."

At that last remark our ears went forward. The thought passed through both our minds at the same instant: "No foreigner will do that job till we have a try at it."

We camped half a mile from Glacier Point for some days, enjoying the wonderful valley views, then moved to Little Yosemite where we established a base for our attempt on Half Dome.

A day or so later we were standing at the bottom of the fifteen-hundred foot, smooth, granite pitch. The only side it was possible to climb appeared to be as smooth as writing paper. At our feet lay the remains of the bale-rope cable which had been torn down in the snow slide.

As we studied the face of the mountain, we saw how the dare-devil sailor had accomplished his work. He had climbed up the steep grade wherever there was the slightest toe-hold; then, when he could go no farther, he reached up as far as he could and drilled a six-inch hole. In this he fastened a bolt one-half inch in diameter which stuck out from the rock about two inches over all. One end of the bolt was bent into a ring through which he fastened his cable. This he had fashioned by stringing a number of bale ropes until the cable was about three inches in diameter. To keep it from tangling, he bound it every foot.

LOOKING BACK

Editor's Note:

In 1892, Mr. Theodore Roosevelt proposed the author, A. Phimister Proctor, to become a member of the Boone and Crockett Club at the World's Fair and was elected at the same meeting, before the Exposition opened. Mr. Proctor was a very active big game hunter. Just two days before his 85th birthday he shot a grizzly. That was 69 years after the date that he shot his first grizzly.

An Ascent of Half Dome in 1884

When each pin was well secured in the granite, he attached the cable to the pin ring by a smaller rope. Then, standing on that pin he would drill another hole and again attached the cable.

Wherever it was possible to climb, and he was a past master at that game, he went without pins, taking advantage of toe-holds. Then, when the rock was too smooth and steep, another pin was put in and the cable fastened as he went. This helped him to come and go. He had built a cabin at the nearest spring, a mile away, where he lived and kept his forge for making bolts.

We returned to camp that night after our tour of inspection to get ready to tackle the cliff in the morning. We had carried with us all of our pack and picket ropes that could be spared, and both of us were looking forward to the attempt with considerable anxiety.

Everything ready, we started on the ascent. The first two hundred feet were accomplished, all the rope hauled up and fastened, and then our troubles began in earnest. We tried every expedient we could think of, one after the other, to get up that smooth steep rock. We could see clearly enough now why all the others had failed, for no matter how hard we tried we kept slipping back. Yet, forty feet or so above our heads a rock jutted out. If we could only reach it! Beyond, the surface looked rough enough for finger-holds for some distance. But there was no joy in that, for we couldn't get there. We had failed! There was one satisfaction— no one would know of our failure, for we had told no one of our intentions. In silence we began to gather up our ropes.

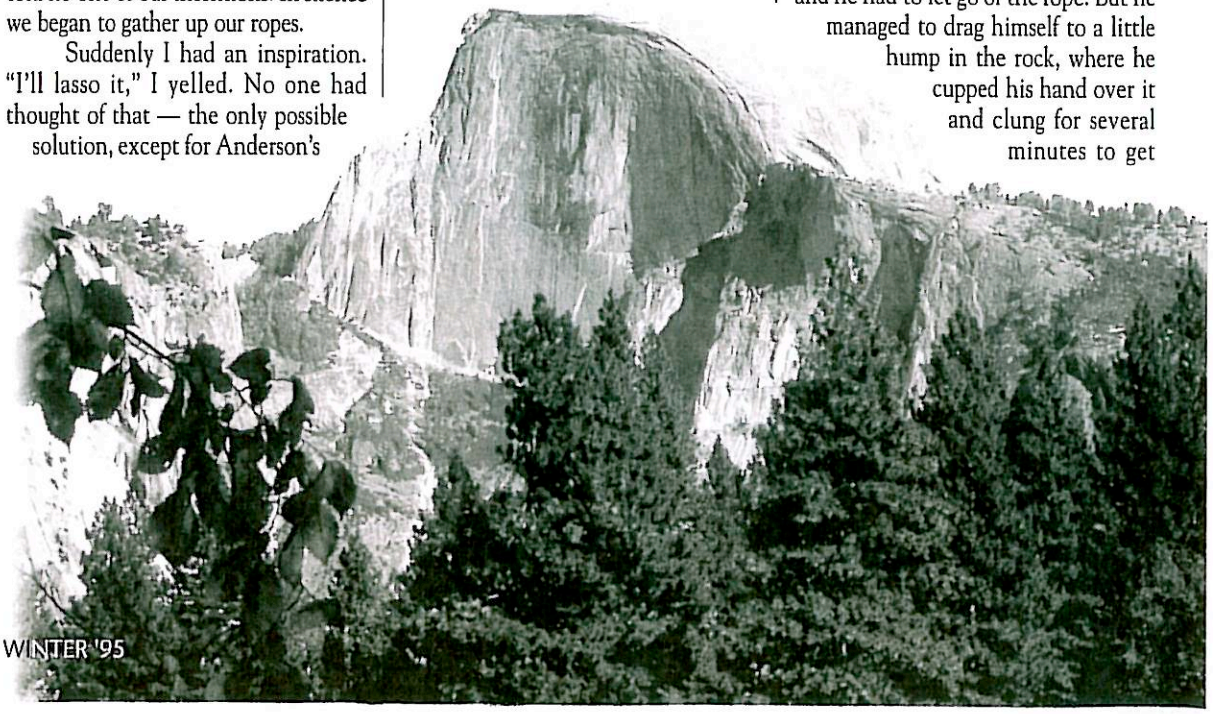
Suddenly I had an inspiration. "I'll lasso it," I yelled. No one had thought of that — the only possible solution, except for Anderson's laborious method. Luckily I was a pretty fair hand with a lariat. Tying a loop on a lash rope, I made a throw. After several false pitches I finally got the range. The knot caught in a crack of the rock and stuck. It didn't look particularly good to me, but I started crawling up the steep slope supporting my weight on the rope. Just before I could grasp the projection, the knot slipped and down I slid for about twenty feet before it caught again. This gave me a bad scare, and while I was collecting my scattered nerves, Sampson climbed up. Soon we were both standing on the jutting rock and could survey the problem ahead.

We found that the slide had not only carried away all of the rope and some of the pins but had loosened some of the pins that were left. This was an unlooked for handicap. Wherever a pin had been pulled out, the only way to reach the next one was to lasso it and then pull oneself up to it with the help of the rope.

As we proceeded we found that some of the pins had been bent over by the snow and were difficult to rope. Often my loop would roll over a ring twenty times before I caught it, even though I had made a good throw. Several of the pins pulled out when my weight was put on the rope. Moreover, our ropes had been used in packing and picketing horses for the past six months and were rather thin and frayed. By this time I was barefoot, for I had discarded my shoes which had a poor set of hobnails.

When I reached a pin, my method was to climb up on it, always leaning against the wall of the mountain, and hook my big toe over the pin. That was my only support. I would straighten myself up slowly, still leaning against the face of the mountain, and throw for the next pin. And I repeat, I was standing on a two-inch pin, with my big toe the only support between me and the valley below. There was never a hand-hold. The only way that I could get my big toe over the ring was to double up like a jackknife, put my toe on the fingers by which I was holding to the pin, and when I was balanced all doubled up, pull my fingers out with all my weight still resting on them. This was not too easy, as I soon found out. Early in the day my right glove got away from me and went tobagganing down the mountain. This made changing my weight from fingers to toe much more painful.

We at length reached a place where there were no pins, but there were a few rough surfaces. It was now Sampson's turn to go ahead. I doled out the belt rope as he cautiously crawled aloft. If he had slid down past me there wasn't a chance in the world that I could stop him, and we would both have been swept to the bottom. Finally, he reached a ledge where he was compelled to slant off to the side, and this was impossible without something to hold to. As he hung on desperately to small cracks in the rock, he worked a piece of bale-rope from his pocket and tied it to a small bush just above him. I held my breath. Then, putting just enough pressure on the rope to keep himself from slipping, he moved cautiously along till the angle was too great and he had to let go of the rope. But he managed to drag himself to a little hump in the rock, where he cupped his hand over it and clung for several minutes to get



THE HALF-DOME AT YOSEMITE NATIONAL PARK.

his breath. Several yards farther he reached a safe spot, where he fastened the rope and I pulled up to him.

By noon we had reached the only ledge on the mountainside where we could rest and eat lunch. It was all of six inches wide and had been forced away from the main rock so that we could push a leg down in it and rest without holding on. I tell you, that felt good.

By the end of the first day we had made about half of the distance. Just before sunset we slide down the cable, mounted our horses and rode to camp some three miles away. My feet were mighty sore from climbing about on the rocks. To tell the truth, I looked at the mountain with a heap of dread, though I didn't let on. Later I found out that Sampson was scared, too, but as I didn't show any signs of fear, neither would he.

Bright and early the next morning we were back at the starting place with all the rope we possessed. It wasn't hard to reach the upper end of the cable, but there our troubles began. It was tedious work pulling all the spare rope after us. I don't know the exact pitch of the mountain, but everything slipped off the moment we let go of it. Every minute we had to lean against the mountain, which always seemed trying to push us away.

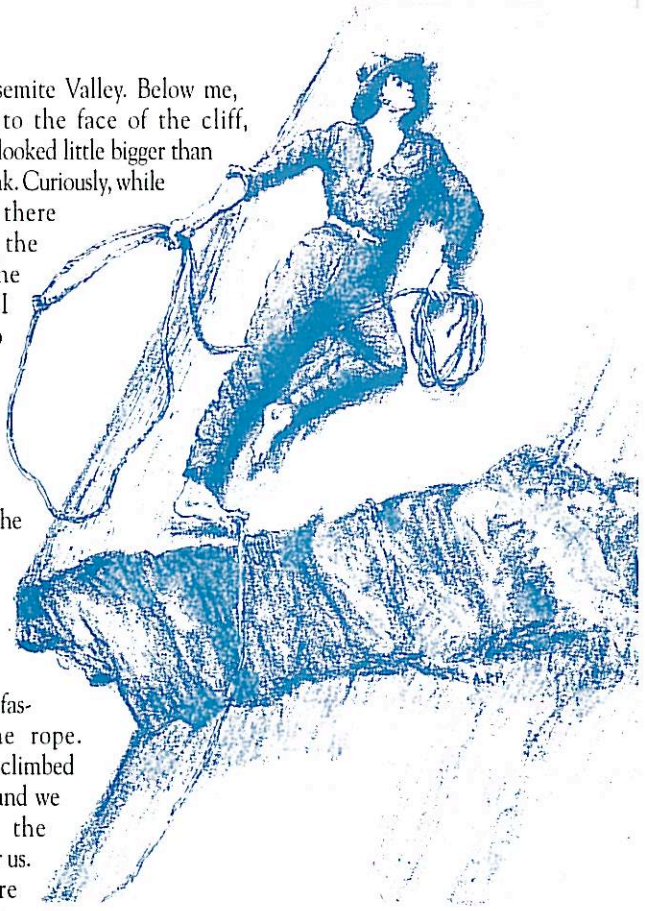
From then on, the surface was the deadly smoothness that I dreaded — there were few pins, and I had to go ahead with the lasso. About hundred and fifty feet above the spot where I took the lead, I was clinging by my big toe to a pin and lying on my side against the steep cliff, trying to rope the next pin. There was a wind blowing, and this made roping difficult. Finally the rope caught. I put my weight on it, and it held. Then just as I was about to let go on my toehold I gave another yank and out came the pin! It rolled down past me, still in my lasso loop. That gave me a chill, and no mistake.

Luckily the next pin was only five feet above the one I had just pulled out. But the tedious work had to be done all over again. After half an hour of trying, the loop finally caught on that pin. It was a great relief, for if the little pin I was then on had given way, or if my knee had caved in, it would have been all over, for there was nothing between me and the bottom of the canyon.

The next pin was the worst of all, for it was thirty-five feet above me on a ledge of rock which stuck out over me about two feet and a half. It seemed next to impossible to make the rope fly up those extra perpendicular feet and hold. We both yelled when the loop finally settled over it. Right there was the fiercest spot I had to conquer. I crawled up on my hands and knees, holding like grim death to the rope, until I got to the ledge. There I had to pull myself up on the rope hand-over-hand until I got hold of the pin with my fingers. Then I had to worm myself up over the pin in the "jackknife" movement while I held my weight on the pin with three fingers of my right hand. With my right big toe over my fingers, I slid my body up against the face of the mountain, first painfully yanking my fingers out from under my toe with all my weight on said toe! I lost some skin, but that couldn't be helped. As I stood leaning against the sloping granite catching my breath, that hellish old mountain seemed more than ever determined to push me off.

Once my right toe was hooked over the little pin, there it had to stay. I couldn't change my position, for there was absolutely nothing above to cling to. But before I could catch the next pin, which was a long throw above, my leg trembled so that I simply had to go down — and that was even more difficult than going up! I had to push my index finger under my toe to get hold of the pin, meanwhile hanging over that empty mile of space. It seemed almost impossible to keep from pitching headlong into the blue. I had to climb up over that hellish corner three separate times before I succeeded in roping that next pin. Every time, under the intense strain, my leg would begin to quiver, and I knew that I would either have to go down or get a cramp and fall down. How I cursed the day that I undertook such a fool stunt.

At last, after an hour and twenty-five minutes of unbroken Hades, my loop held. This pin still had a bunch of old rope caught around it, which made roping difficult. Four times it caught, but when my weight was put on it the loop had slipped off. I was anything but happy as I put my weight on that worn rope and, on hands and knees, cautiously climbed up the polished surface of the rock. How anxiously I watched the rope for signs of giving way and the loop for signs of slipping off the pin. If either had happened, you wouldn't be reading this story. To the left, through the corner of my eye, I could see Little Yosemite 3,000 feet below, while at the right, bathed in purple mist lay the grand Yosemite Valley. Below me, clinging to the face of the cliff, Sampson looked little bigger than a chipmunk. Curiously, while lying there against the side of the mountain I thought to myself, "Now I can face the biggest grizzly in the wilds."



Finally I reached a safe pin, and to it fastened the rope. Sampson climbed up then, and we pulled the cable after us. From here we had to use about two hundred feet of our own rope to piece out the sailor's cable. There just wasn't enough to finish the job. Sampson still had some ticklish work to do, but we made the top at last.

ILLUSTRATION BY A. PHIMISTER PROCTOR

The view from the top of Half Dome is, I suppose, one of the most wonderful in all America. The valley was spread out below us in all its blue, hazy beauty. We sat for awhile enjoying the wonders of the valley under the glow of the setting sun, and then built a fire on the highest point, in view of the whole valley, to let people know that Half Dome had been conquered! At last, reluctantly, we left, slid down the cable and reached safety just at dark.

There are times in a young man's life that a great experience changes it. Those two days on Half Dome were for me the divide between careless youth and serious manhood. My mind had been made up long ago to become an artist. There was nothing else for me in the way of a profession. Those hours of anxiety and danger, trying to accomplish something which in itself was of little value to the world, had crystallized in my mind the ideals that had vaguely been floating in it. After a month's visit in San Francisco with an artist friend, I returned to Denver and was soon launched upon the career that has claimed me ever since.