

A CONTRIBUTION TO THE
HISTORY OF THE
GLACIER BAY NATIONAL MONUMENT



Peaks at head of Johns Hopkins Inlet, view southwest.
Photo by Byerly before 1929.

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1421 Bluebell Avenue

Boulder, Colorado

March 1956

For Not To Be Taken
From the Room
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William S. Cooper
1421 Bluebell Avenue
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I. GLACIER BAY IN THE
EARLY HISTORIC PERIOD

In 1794 Captain George Vancouver sailed through Icy Strait. From his report it is certain that where Glacier Bay now lies there was at that time an enormous trunk glacier fed by many tributaries, with an actively discharging cliff near the mouth of the bay, probably in the vicinity of the Beardslee Islands. Vancouver's statement that "the shores of the continent form two large open bays which were terminated by compact solid mountains of ice, rising precipitously from the water's edge" still lacks satisfactory interpretation.

Late in the fall of 1879 John Muir, in a hazardous canoe trip, piloted by Indians, rediscovered the bay and visited several of the ice fronts. In a second expedition the next year he extended his explorations. His graphically written accounts, first appearing in the magazines (reprinted in "Travels in Alaska", 1915), made the wonders of the region generally known. Shortly after the articles appeared the steamer "Queen", commanded by Captain Carroll, began its long series of tourist excursions to Muir Glacier. "Queen Inlet" and "Carroll Glacier" commemorate these early visits. During this period of a decade or more thousands saw the Muir Glacier at close range, and it came to be so generally familiar by reputation as to become in the popular mind the type example of the tide-water glacier. Muir made a third expedition in 1890, establishing his main base of operations close to the terminus of the Muir Glacier at that time, at the base of Mt. Wright.

The tourist visits came abruptly to an end in 1899, in which year began a period of rapid glacier recession, with enormous accumulations of floating ice. This sudden change has been attributed to the great earthquake of 1899 which centered in the vicinity of Yakutat Bay, but other less spectacular causes are possible. For several years close approach to the Muir Glacier was barred by extensive ice fields, and during that period the steamship companies discovered that the Taku Glacier, close to the regular route to Skagway, was sufficiently imposing to satisfy the average tourist.

*Prepared at the request of the National Park Service and published by the Department of Botany, University of Minnesota, March 1956.

Muir's early accounts inspired other scientists, mainly geologists, to visit the region. Reid and Cushing, G. F. Wright, Gilbert and Muir on the Harriman Expedition, Tarr and Martin, F. E. and C. W. Wright, and J. B. Mertie Jr. made valuable contributions. Most of them made accurate surveys of the positions of the ice fronts at the time of their visits.

The above sketch makes no pretensions to completeness. References to the principal sources for the early historic period are given in the publications by W. S. Cooper at the end of this paper. For developments subsequent to the close of my work the reader is referred to Mr. W. O. Field, Jr., of the American Geographical Society, and Dr. Donald B. Lawrence, Department of Botany, University of Minnesota.

II. FIELD WORK BY W. S. COOPER IN THE GLACIER BAY REGION

My first visit to Alaska was in 1914. It covered the usual points of tourist interest. I was, however, on the lookout for a research project involving plant succession. Superficial observations indicated that areas left bare by glacier recession would be ideal for this purpose. Here was an opportunity to watch the successional process directly through periodic visits, where the major part of a complete developmental cycle might be encompassed within the span of a single lifetime.

Two years later (1916) I made my first scientific expedition to Alaska. My companion and assistant was John V. Hubbard, of Grass Valley, California, with whom I had previously done considerable mountain climbing in Colorado. Glacier Bay occupied most of our time but I made studies in two other areas. A gas boat took us up the Stikine River from Wrangell to the Great Stikine Glacier and left us there with camping equipment and a rowboat. We made a five-day stay at the glacier and then returned to Wrangell, fifty miles in six days, with a side trip to Knyg Lake and many other stops. The other area was the vicinity of the Taku and Norris Glaciers. These localities provided valuable data on vegetation development where glacier recession was very slow.

The 1916 trip to Glacier Bay was made in the gas boat Lue, Captain Tom Smith. We visited all the ice fronts except the Johns Hopkins, its fiord being so completely filled with floating ice that entrance was impossible. General observations were made on the vegetation, a large collection of plants obtained, and many photographs taken, especially of the ice fronts. Most important was the establishment and charting of three groups of three quadrats each in areas of pioneer vegetation at points where ice fronts had rested at known dates as established by previous visitors: 17, 24, and 37 years before 1916. It was my hope at that time that I would be able to re-visit and rechart these quadrats at intervals of five years. The first interval was actually five years; the second and third were eight and six respectively.

In 1921, with Mrs. Cooper, I visited Glacier Bay for the second time; our gas boat was the Dixie, Captain Fred Boynton. I found all the quadrats with little trouble, thanks to an elaborate buried-treasure system of cairns, white crosses on rocks, compass bearings, and pacings, and recharted

them. The most important studies of interstadial forest remnants were made that summer. I also made ten-day records of temperature, relative humidity, and evaporation close to the Muir Glacier and on Strawberry Island, thirty miles down the bay. Before going to Glacier Bay we spent several days in Holkham Bay, Ford's Terror, and Tracy Arm.

The 1929 expedition was financed in large part by Miss Frances Andrews of Minneapolis, who also took part in it, as did Mrs. Cooper. Chester Roys, of Moline, Ill., acted as assistant. The gas boat was the Yakobi, and Captain Tom Smith was again in charge. Quadrats were re-charted, except one near the edge of a bluff that had been washed away by waves. Additional studies of interstadial forest remnants were made, and a very extensive collection of plant specimens was obtained. Our party was the first to enter Johns Hopkins Inlet. We were able to penetrate to within four miles of the Johns Hopkins Glacier before being stopped by dense masses of bergs. A second visit was made to Holkham Bay, and three days of study were given to the Davidson Glacier on upper Lynn Canal.

In 1935 I accepted an invitation from Mr. W. O. Field, Jr. to collaborate in an expedition to Glacier Bay and Prince William Sound. Robert Stix and Russell Dow were assistants. The quadrats were re-charted, and new exposures of interstadial forest studied. We were able to take our gas boat (again the Yakobi with Tom Smith) all the way to the Johns Hopkins Glacier in Johns Hopkins Inlet. I devoted three days to study of the foreland east of the mouth of the bay, in its glaciological and botanical aspects. I also studied the recently developed pitted outwash plain in front of the Hugh Miller Glacier.

Nine publications based mainly on my four expeditions to Glacier Bay are listed at the end of this account. The publication 1942b describes material obtained from the National Monument by Mr. Bradford Washburn; 1942a is of indirect importance in relation to Glacier Bay.

III. CAMPAIGN FOR THE ESTABLISHMENT OF THE GLACIER BAY NATIONAL MONUMENT

At the annual meeting of the Ecological Society of America, held at Boston in December, 1922, I reported on the results of my first two expeditions, describing the development of vegetation during the five-year interval, the changes as indicated by recharting of the quadrats, and the interstadial forest remnants. The glacial features were of course covered also. The report impressed Mr. Barrington Moore, consulting forester and a former president of the Ecological Society, with the desirability of establishing in the Glacier Bay region a reservation of some sort -- national park or national monument -- in order to preserve its unique features of scientific and scenic interest. Mr. Moore presented his views to the society, and after discussion a committee was appointed to consider the advisability and feasibility of establishing a national park or national monument at Glacier Bay, with instructions to report to the society at its next annual meeting. Barrington Moore is thus to be credited with initiation of the project which attained success three years later. The committee consisted of William S. Cooper, Chairman, Charles C. Adams, Robert F. Griggs, and Barrington Moore.

Soon after the Boston meeting I sent the following communication to the other members of the committee:

I am submitting herewith all the data that I have been able to obtain relating to the subject under consideration. It is derived from three sources. The bulk of the material descriptive of the Glacier Bay region is from my own observations, and I have supplemented the portion with photographs and a map. For comparison of Glacier Bay with other similar regions in Alaska I have consulted the literature, which is detailed and satisfactory; and thirdly, I have corresponded with everyone whom I know to be familiar with the region--not an extensive list.

Will you kindly read the material here submitted, and formulate a personal decision upon the question with which the committee is charged? In your reply, any comments or suggestions will of course be welcome.

It seems to me that there are three possible recommendations from which choice is to be made.

1. That it is inadvisable to take any affirmative action in the matter.
2. That it is advisable and feasible to take affirmative action in relation to the setting aside of the Glacier Bay region as a national park or monument; but that the present is not a favorable time for such action.
3. That it is advisable and feasible to take energetic action at once looking toward the setting aside of the region.

If the decision is according to the third suggested recommendation, two alternatives suggest themselves:

- a. An effort to have the region set aside as a national park.
- b. An effort to have the region set aside as a national monument.

The latter alternative is suggested by Dr. Griggs, who says: "A national monument is created by presidential proclamation, whereas a national park is made by act of Congress. In the first case it is necessary only to convince one man of the advisability of the action, while in the second six hundred, more or less, must be converted to the idea." Dr. Griggs further suggests that a national monument may later be converted into a national park by congressional action.

A copy of the summary of data presented to the committee may be found in the archives of the Ecological Society. An outline follows:

1. Suggested boundaries
2. National features of Glacier Bay
 - a. General description
 - b. Tidewater glaciers
 - c. Glacier Bay compared with other Alaskan localities
 - d. The future of the glaciers
 - e. Forests and animals
 - f. Features of special scientific interest
 - g. Danger of harm to natural features

3. Usability and accessibility
4. Mining development in the region
5. Opinions (Dr. Harry Fielding Reid, Dr. Lawrence Martin, Dr. J. B. Mertie Jr., Dr. Alfred H. Brooks, Dr. U. S. Grant): all more or less favorable, some with reservations based on inaccessibility and some other factors).

The boundaries of the reservation suggested at that time should be given here:

If Glacier Bay alone is to be included, the eastern boundary should begin on Icy Strait about midway between the mouth of Glacier Bay and Excursion Inlet; from thence northward, following roughly the divide between those bodies of water; westward, including the sources of the Muir and its tributary glaciers, to the international boundary; following this to Mt. Fairweather, then southward along the crest of the Fairweather Range, through Mt. LaPerouse to the ocean. It might be advisable to include additional areas to the east and west. In the former case the northern boundary would run straight eastward to Lynn Canal. This would take in a fine body of mountains and the Davidson Glacier, which possesses a very interesting piedmont bulb. I have no information as to what economic development, if any, has taken place in this area. On the west, the northern boundary might run from Mt. Fairweather southwestward to the ocean, thus including the abrupt west slope of the Fairweather Range, Lituya Bay, with two fine tidal glaciers, and the LaPerouse glacier, the only one on the coast which actively discharges into the open ocean. The Treadwell company is engaged in extensive prospecting operations at Lituya Bay, which might produce difficulties.

The Society passed the following resolution:

Whereas, the region of Glacier Bay, Alaska, presents remarkable features of scientific value and interest, as follows:

An extremely rapid retreat of glacial ice--sixty miles in a century and a quarter;

An accurately known glacial history, beginning with the visit of Captain Vancouver in 1794, and continued, from 1879 to the present date, in the work of several scientists who have accurately mapped the positions of the glacier fronts at various times. There is thus an unexcelled opportunity for observing the reestablishment of plant and animal life on absolutely bare land freed from the ice at definitely known dates;

The abundant forest remains of an interglacial [should be interstadial] period, in a remarkable state of preservation, together with surviving portions of the same forest on the mountain slopes above the reach of the ice at its recent maximum.

(Resolution contin.)

We thus have the old and the new forest existing side by side, and

Whereas, a scientific study of the vegetation of the recently ice-covered areas has been in progress since 1916, and has already yielded results of the greatest interest and value, and

Whereas, the region contains nine tidewater glaciers, constantly discharging icebergs, which, as a group, are as fine as any in Alaska; and including the Muir Glacier, well known for many years, and

Whereas, our present system of national parks contains no example of the tidewater glacier, one of the grandest and most awe-inspiring manifestations of nature, and

Whereas, lofty and precipitous mountains come down to sea level on narrow fiords, affording scenery of unusual beauty and magnificence, and

Whereas, the accessibility of this region enhances the opportunities for scientific research and recreation, therefore

Be it resolved that the Ecological Society of America hereby strongly urges action by the appropriate authorities looking toward the setting aside of Glacier Bay and its environs, including the Muir and other glaciers and the surrounding mountains, as a National Park or National Monument.

The committee reported to the Society at its annual meeting at Cincinnati in December, 1923:

Your committee, appointed last December at the Boston meeting of the society, to consider the advisability and feasibility of establishing a National Park or Monument at Glacier Bay, Alaska, begs to submit the following report.

The committee has considered four possible recommendations: (1) That it is inadvisable to take any affirmative action in the matter; (2) That it is advisable and feasible to take affirmative action in relation to the setting aside of the Glacier Bay region as a national park or monument, but that the present is not a favorable time for such action; (3) That it is advisable and feasible to take energetic action at once looking toward the establishment of a national park; (4) That it is advisable and feasible to take energetic action at once looking toward the establishment of a national monument.

The unanimous decision of the committee has fallen upon the fourth alternative, and we therefore recommend that the Ecological Society make an immediate and energetic effort to have the Glacier Bay region set aside as a national monument. Our decision is based upon consideration

(Committee report at annual meeting, contin.)

of the data presented in the following pages [essentially the material presented earlier to the members of the committee, including suggested boundaries as given above].

.....

It is the conclusion of the committee that the Glacier Bay Region should be set aside as a national monument for the following reasons:

First and foremost, because it contains a large number of tidewater glaciers of the first rank, in a magnificent setting of lofty peaks. Our present system of national parks and monuments contains not a single example of the tidewater glacier, one of the most imposing and awe-inspiring of the wonders of nature. The glaciers of Glacier Bay, taken as a group, are as fine as those of any other region of Alaska.

Second, Glacier Bay is far more accessible to ordinary travel than the other similar regions of Alaska.

Third, it is very desirable that an area of the magnificent coastal forest of Alaska should be preserved for all time in absolutely natural condition. The Glacier Bay Region is uniquely fitted for this purpose because it presents great variety in its forest covering: mature areas, bodies of youthful trees which have become established since the retreat of the ice, and great stretches, now bare, that will become forested in the course of the next century.

Fourth, because of certain features of special scientific interest: opportunity for the study of glacier behavior and of the movements and development of flora and fauna, and the presence of valuable relics of ancient interglacial forests.

Fifth, because of historical associations, beginning with Vancouver's visit in 1794, and continued especially in the explorations and writings of John Muir.

The committee believes further that immediate action is advisable. At the present time the region is totally uninhabited and undeveloped, and therefore no hardship would be worked upon any one, and no interests would be antagonized by setting aside the area. The forests, moreover, are not at the present time particularly valuable, but will in the near future become increasingly so. If the region is deemed worthy of being proclaimed a national monument, the present is the time for such action, for there are fewer difficulties to be overcome now than there will be at any time in the future.

The Society adopted the committee's report and passed the following resolution:

Whereas, our National Park system does not contain a

(Resolution, contin.)

single example of a tidewater glacier, one of the most imposing and awe-inspiring of the wonders of nature; Whereas, the glaciers of Glacier Bay, Alaska, taken as a group, are as fine as those of any region in Alaska, and are far more accessible than any other group to ordinary travel;

Whereas, the Glacier Bay region contains features of very great and unusual scientific interest and value, namely: a unique opportunity for studying the behavior of glaciers and the invasion of plants and animals into ground vacated by the ice at known dates and, furthermore, valuable relics of interglacial forests overwhelmed by the last advance of the ice;

Whereas, it is important that a portion of the magnificent coastal forest of Alaska be preserved for all time in an absolutely natural condition, the Glacier Bay region being uniquely fitted for this purpose on account of the great variety of its forest covering, representing mature areas, youthful trees which have become established since the retreat of the ice, and great stretches, now bare, that will become forested during the course of the next century, provided the ice does not again advance;

Whereas, the Glacier Bay region is almost entirely government land but not included in a National Forest, is not being used commercially, and is not needed for the economic development of Alaska;

Whereas, the Glacier Bay region, for the foregoing reasons, would serve its highest usefulness to the people if permanently preserved in an absolutely natural condition;

Therefore, be it resolved, that the ECOLOGICAL SOCIETY OF AMERICA strongly urge the withdrawal of the Glacier Bay region from entry, and its preservation as a National Monument for permanent scientific research and education, and for the use and enjoyment of the people;

And further, be it resolved that copies of these resolutions be transmitted to the President of the United States, the Secretary of the Interior, the Director of the National Park Service, the Secretary of the Smithsonian Institution, and the Governor of Alaska.

The committee was continued without change in personnel and instructed to undertake at once a vigorous campaign aiming at the establishment of a National Monument at Glacier Bay.

The campaign as organized was three-fold: (1) presentation of the project to the proper government agencies, (2) publication of articles and interviews in papers and magazines, (3) enlistment of support from influential societies and individuals in the fields of science, conservation, nature study, etc.

For presentation to government agencies and influential individuals, a comprehensive statement of the case was prepared by the chairman, with a map showing the projected boundaries, and numerous photographs (copy in archives of the Ecological Society). Copies were sent to President Coolidge, Secretary of the Interior Work, Director Mather of the National Park Service, Secretary Walcott of the Smithsonian Institution, Governor Bone of Alaska, Delegate Sutherland from Alaska, and a few other persons. Delegate Sutherland had already expressed keen interest in the project and had even offered (letter to chairman, Dec. 10, 1923) to introduce a bill in Congress authorizing establishment of a national monument (the wrong procedure, of course, for this type of reservation). Six weeks later his enthusiasm had markedly cooled (letter of Jan. 25, 1924).

Among the periodicals in which articles appeared were the Boston Evening Transcript, Christian Science Monitor, St. Paul Pioneer Press, National Parks Bulletin, Alaska Weekly, Philadelphia Public Ledger.

A brief statement was prepared for circulation among organizations likely to be interested, with a request that they send letters in support of the project to Secretary of the Interior Work and to Mr. Mather, Director of the National Park Service. In reaching a very large number of such organizations, the committee profited greatly by use of an apparatus developed by the Committee on Preservation of Natural Conditions of the Ecological Society. This apparatus consisted of a list of organizations, both national and local, with officers' names and headquarters addresses. It had been built up over a period of years by the parent committee with cooperation of representatives in almost every state, for use in just such a case as the present. More than eighty organizations notified the committee that they had sent the requested letters. Among those of national scope were the following:

- American Association for the Advancement of Science
- National Research Council
- American Geographical Society
- National Geographic Society
- Associated Mountaineering Clubs of North America
- Explorers Club
- National Parks Association
- Council for National Parks, Forests, and Wild Life
(representing 28 national organizations)
- American Forestry Association
- Botanical Society of America
- Society of American Zoologists

Many individuals gave assistance or sympathetic cooperation to the committee in its efforts. The following persons should be specially mentioned: Mr. Arno B. Cammerer and Mr. A. E. Demaray of the National Park Service, Dr. Raphael Zon of the Forest Service, Dr. Vernon Kellogg of the National Research Council, Hon. Gifford Pinchot.

Approach to the Department of the Interior was made through E. C. Finney, First Assistant Secretary. Mr. Finney cooperated cordially with the committee throughout the campaign. Correspondence with the Forest Service revealed the fact that that agency had for several years contemplated

extension of the Tongass National Forest to include the area of the proposed national monument. The Acting Forester, Mr. L. F. Kneipp, strongly urged such incorporation as an immediate step toward protection of the area, with establishment of a national monument or national park as a possibility for the future. Later, Chief Forester W. B. Greeley, in a letter to Raphael Zon (Dec. 12, 1924) pointed out that an area adjacent to Lituya Bay had been reserved by the Government during World War I because it contained some of the best spruce timber in Alaska, and that it was still in a state of reservation. Colonel Greeley expressed approval of the national monument project in principle; he felt that if the national monument were established there would be no difficulty in reaching a satisfactory boundary adjustment between it and the National Forest.

The committee also requested the General Land Office to furnish information as to the extent of public land surveys within the projected boundaries. The reply from Commissioner William Spry indicated that the only surveyed lands were located on the flat foreland east of the mouth of Glacier Bay--then commonly known as Strawberry Point, later officially designated as Point Gustavus. These lands had been surveyed "on account of their agricultural character and the number of claims therein, and to promote homestead and other development in such localities" (letter from Spry to chairman, Jan. 24, 1924). In other parts there were few claims of record in the files of the Land Office.

Secretary of the Interior Work (letter to chairman, March 15, 1924) stated that

before recommending the setting aside of such a large area for a national monument. . . . a careful study, possibly on the ground, should be made by officials of this Department to definitely determine the need of such reservation and the limits of the area to be set aside.

On March 25 he reiterated this requirement, but added:

in order that the interests of the United States may be protected pending such study I am recommending to the President that the land be temporarily withdrawn under authority of the Act of Congress of June 25, 1910. . . . and pending determination as to the advisability of including them within a reservation under the National Monument Act. . . . The letter addressed to the President by the Ecological Society will be transmitted to the President with form of Executive Order and my recommendation that the area be temporarily withdrawn.

On April 26 Assistant Secretary Finney notified the chairman that the President on April 1 had ordered the temporary withdrawal. A copy of the Executive Order follows:

EXECUTIVE ORDER

ALASKA

It is hereby ordered, under authority of the act of Congress approved June 25, 1910 (36 Stat. , 847), as amended by the act of August 24, 1912 (37 Stat. , 497), that the public lands lying within the hereinafter described boundaries be, and they are hereby, temporarily withdrawn pending determination as to the advisability of including the same in a national monument, subject to the conditions of said acts and to all prior claims lawfully initiated and maintained:

Beginning at the western extremity of Cape Fairweather on the west coast of Alaska, thence in a northeasterly direction to the summit of Mt. Fairweather on the international boundary between Canada and the United States, thence following such boundary easterly, northeasterly and easterly to Monument No. 157 of the survey of such boundary by the International Boundary Commission approved June 9, 1923; thence east following the latitude of said monument to an intersection with the right bank of Chilkat Inlet; thence southerly along the right banks of said inlet and Lynn Canal to Icy Strait; thence westerly along the north shores of Icy Strait and Cross Sound to the Pacific Ocean; thence in a general northwesterly direction along the shore of the Pacific Ocean to Cape Fairweather, the place of beginning containing approximately 2,560,000 acres.

CALVIN COOLIDGE

The White House,
April 1, 1924.

[No. 3983.]

This order brought an outburst of opposition in Alaska, prompted mainly by lack of appreciation of the temporary nature of the withdrawal. On May 23 Secretary Work wrote the chairman that

Objections have been received from several commercial organizations and chambers of commerce in Alaska to the effect that the temporary withdrawal made in this connection by Executive Order of April 1, 1924 includes areas suitable for agricultural and other purposes. These organizations have been advised that their protests will be given careful consideration in determining lands for permanent reservation in the proposed national monument and that all prior claims lawfully initiated and maintained are protected under the temporary withdrawal.

The Juneau Daily Empire, in its issue of April 28, 1924, printed the following editorial:

A MONSTROUS PROPOSITION

The proposal to establish a National Monument of all that territory between Lynn Canal and the Chilkat River and the Pacific Ocean and between Mount Fairweather on the north and Icy Strait on the south is a monstrous proposition. Within this area there are more than 30,000 acres of surveyed agricultural lands and three or four times more than that which are capable of agricultural development. There are canneries, operating mines, patented mineral claims and a number of settlers on homesteads within the area, and vast opportunities for mineral prospectors, water power development, lumbering and other industries. The Strawberry Point region, said to contain the largest and best tract of agricultural lands in Southeastern Alaska, containing approximately 90,000 acres suitable for farming and grazing, is in this proposed National Monument, which contains in all something like 2,500,000 acres.

It is said the proposed National Monument is intended to protect Muir Glacier and to permit of the study of plant and insect life in its neighborhood.

It tempts patience to try to discuss such nonsensical performances. The suggestion that a reserve be established to protect a glacier that none could disturb if he wanted and none would want to disturb if he could or to permit the study of plant and insect life is the quintessence of silliness. And then when it is proposed to put millions of acres, taking in established industries and agricultural lands and potential resources that are capable of supporting people and adding to the population of Alaska, it becomes a monstrous crime against development and advancement. It leads one to wonder if Washington has gone crazy through catering to conservation faddists!

In another place (citation lost) it was stated that the reservation was being established "merely for the benefit of a few bug-hunters". The chairman, in an endeavor to answer objections and clear away misunderstandings, replied to the article in the Juneau Empire in a letter which was printed in full in the Alaska Weekly, issue of July 11, 1924, and widely quoted in newspapers throughout Alaska.

WITHDRAWAL IS DEFENDED

Dr. Cooper Outlines Aims of Ecological Society
in the Glacier Bay Affair

Voicing a vigorous objection on the part of Alaskans to the proposed Glacier Bay National Monument, planned

(Withdrawal is defended, contin.)

to be set aside as a national park and comprehending a wide area of land on the shore of Glacier Bay, the Juneau Empire recently published an editorial dealing with the subject. Whereupon Dr. William S. Cooper, of the University of Minnesota, who is active in the proposed withdrawal, replies as follows:

"My attention has been called to an editorial in the Daily Empire relating to the proposal to establish a National Monument at Glacier Bay. Being chairman of the committee of the Ecological Society of America, which has this project in charge, I am naturally desirous of having the good will and support of the citizens of Alaska in an undertaking which I firmly believe will be to the benefit of Alaska as well as the whole country. I am therefore asking you for an opportunity to present to your readers the attitude of the Ecological Society in this matter.

"Before stating our reasons for desiring the establishment of the National Monument, I will endeavor to answer certain objections put forth in your editorial. First, as to the large area covered by the recent action of President Coolidge, including, it is said, thousands of acres of land adapted to agriculture and other economic pursuits. The withdrawal of last April was purely temporary, to be effective pending an examination of the region, which has already been ordered, and which will be completed during the present summer. The area was purposely and rightly, made large, in order that no essential feature should be omitted. When the final boundaries are drawn, however, granting that the reservation is made permanent, any areas which have been shown to be specially adapted to agricultural or other economic pursuits will be excluded. The Ecological Society has not the slightest desire to deprive the citizens of Alaska of land which is of true valuation for agriculture. We realize that, especially in Southeastern Alaska, such areas are of limited extent and therefore of great value. There are also extensive stretches of commercial timber that will undoubtedly be reopened to entry. We fully expect that the monument as finally constituted will be much smaller than the region temporarily reserved.

Quotes Secretary's Letter

"Objection has also been made on account of claims already existing within the limits of the area. Let me quote from a letter recently received from Secretary of the Interior Work. He states that 'all prior claims lawfully initiated and maintained are protected under the temporary withdrawal.'

"Your editorial speaks particularly of the Strawberry Point region, 'said to contain the largest and best tract of agricultural lands in Southeastern Alaska,' and including practically all of the lands already surveyed. The examination about to be made will appraise this area, and if it

(Withdrawal is defended, contin.)

should prove to be of outstanding agricultural value the sponsors of the plan will most certainly not oppose its exclusion from the proposed reservation.

"Your version of our purpose--that 'it is interested to protect Muir Glacier and to permit the study of plant and insect life in its neighborhood'--hardly states the matter fairly. Let me outline, in a few sentences, two reasons why we think that the area should be permanently reserved.

"First, our system of national parks and monuments, which is intended to be a sort of outdoor museum of scenic beauty and natural wonders, contains not a single example of the tidewater glacier, one of the most imposing and awe-inspiring of the wonders of nature. Alaska has a monopoly of this particular feature. Tributary to Glacier Bay there are nine berg-discharging glaciers, which, taken as a group, are as fine as those of any other region in Alaska, or in the world. Glacier Bay, moreover, is far more accessible to ordinary travel than Yakutat Bay or Prince William Sound, its only rivals.

Would Lock Up Forests

"Second, certain areas in each of the great forest regions of our country, of limited extent, should be set apart for permanent preservation in absolutely natural condition. The time is not far distant when, due to destruction, and to proper use as well, our forests will have lost their primeval significance. We have no desire to lock up permanently the forest resources of the country, but only to reserve a few small areas so that our children may enjoy the beauties of nature untouched by men. It may be argued that the forest reserves accomplish this end, but the purpose of the forester is to conserve the timber supply, allowing cutting under proper safeguards, and this will inevitably involve serious disturbances of natural conditions. The Glacier Bay region is uniquely fitted for the purpose of such a reservation because it presents great variety in its forest covering; mature areas, bodies of youthful trees that have become established since the retreat of the ice, and great stretches, now bare, that will become forested in the course of the next century. Such an undisturbed forest makes an essential part of the setting of the chief features, the glaciers. The glaciers themselves can hardly be harmed, but the forests can very easily be ruined.

"The movement, initiated by the Ecological Society, has enlisted the hearty approval and active support of the principal institutions of the country devoted to scientific research and the cause of conservation. From a list of eighty-two such organizations I will cite the following of national scope:

(Withdrawal is defended, contin.)

National Research Council.
 American Geographic Society.
 National Parks Association.
 Explorers' Club.
 Associated Mountaineering Clubs of North America.
 American Forestry Association.
 Botanical Society of America.
 American Society of Zoologists.
 Council on National Park Forest and Wild Life.

"We are not 'conservation faddists,' but are interested in sane conservation, which cannot do other than benefit Alaska and the proper development of its resources.

Appeal to Tourists

"Alaska's resources are tremendous, in its mines, its fisheries and its forests. And these are not all. Don't forget the tourists. And the tourists come to see glaciers. The visit to the Taku is always the climax of the trip, and the recent opening up of the Mendenhall to automobile travel has caused many tourists--and dollars--to stop at Juneau. Over in Glacier Bay there is a source of revenue to the residents of Juneau that is at present utterly neglected. The publicity arising from its setting apart as a National Monument will cause our tourists to desire to see it. Such a demand will bring about the providing of facilities on the part of the steamship companies--more tourists, more trade for Juneau especially, and incidentally for other towns as well. In the more distant future there are possibilities of a tourist trade beyond all our present dreams. Hotels on the shores of lower Glacier Bay, motor boats carrying visitors to its many points of interest. Why not? Is this fantastic? Such charges were made when the Yellowstone Park was established, and the Yosemite--they were inaccessible--no one would ever go there--and now, behold the thousands who pass through in comfort and luxury. But even today the regular steamer route from Juneau to the south coast of Alaska goes directly by the mouth of Glacier Bay. Why should any citizen of Alaska oppose a project which will cause injustice to no one; which will open up new possibilities of tourist trade and thus add to the volume of this important source of prosperity in the Territory?"

Examination of the area under temporary reservation was ordered by the Department of the Interior, and was carried out in the summer of 1924. The examiner was George W. Parks, Assistant Supervisor of Surveys and Public Lands for Alaska, later Governor of the Territory. His report to the Department of the Interior is dated Aug. 7, 1924.

Parks believed "that the creation of a national monument or other reservation over the entire withdrawn area will seriously handicap present development and undoubtedly retard the economic future development of southeastern Alaska". The greater part of his report was devoted to support of this claim. The reservation was said to comprise one tenth of the land area of southeastern Alaska. "Within this region there are salmon canneries, mining claims, homesteads, Indian allotments, soldiers' additional homesteads, trade and manufacturing sites and lighthouse reservations." Special emphasis was placed on the Strawberry Point area, said to include 90,000 acres of agricultural land and 23,000 acres surveyed. A protest from the group of settlers there was attached. The committee's report asking establishment of a national monument was asserted to be "misleading and incorrect", the particular points so labelled being that "the region surrounding Glacier Bay is today totally uninhabited and undeveloped" and that "the area under consideration is so small in comparison with the vast extent of the forests of southeastern Alaska that the loss in production due to its permanent preservation would never be felt". Nearly all the cases of presumed hardship cited were related to the peripheral portions of the temporary reservation. When Parks wrote his report, he must have had before him a letter from the chairman (June 11, 1924) which made it very clear that the sponsors of the project had no desire to cause injury to any one, and were willing to have excluded from the permanent reservation any areas where inclusion would work injustice or interfere with legitimate development, provided the essential features were retained.

With regard to specific areas the chairman stated in his letter to Parks that "The region bordering Lynn Canal from Chilcat Inlet to Icy Strait should probably be excluded." As to the Strawberry Point area: "We would like to see this whole area included within the park but if such inclusion is likely to cause injustice to the settlers or to prevent legitimate development of the valuable agricultural land we, of course, do not want to stand in the way." On the Pacific side: "The Lituya Bay region would also round out the park nicely. . . . If the inclusion of this area would bring about serious difficulties I would favor leaving it out."

Parks stated in his report that "the opinion of the majority of the residents of Alaska is that while they cannot see any reason for the creation of a national monument they have no objection to the permanent reservation of the upper end of the bay". Agreeing with this, Parks added: "If the glaciers and remains of the interglacial forests and a sufficient area surrounding them can be segregated from the area which is potentially valuable for economic development, there can be no objection to the creation of a national monument." His final recommendations were as follows:

1. Consideration should be given to the question whether or not the glaciers and remains of the interglacial forests are sufficient to bring the area within the meaning of the Act of June 8, 1906.
2. That if the creation of a permanent reserve is deemed necessary and advisable the following described area be included within the boundaries of the national monument or national park: [The boundaries as given here include the

drainage basin of Glacier Bay southward to a line from a peak near the head of Geikie Inlet northeastward to Mt. Wright I.

3. That Executive Order 3983 of April 1, 1924 be immediately modified to conform to this description.

4. That the permanent reservation be so worded that the right to prospect for, develop and patent mineral lands will not be prohibited within its boundaries.

Governor Bone informed the Department of the Interior that he approved Parks's recommendation of a reduced boundary if a monument were created. The U. S. Geological Survey protested strongly against any reservation in which mining and prospecting would be prohibited.

The Ecological Society held its 1924 annual meeting in December at Washington. The chairman of the Glacier Bay committee was at the time on sabbatical leave in California. It was evident that the final decision as to establishment of the monument would not be long delayed and that the situation was critical. The chairman therefore made the trip to Washington, and, with the other members of the committee, spent four days in conferences with agencies and individuals concerned, in an effort to find a solution to the problem acceptable to all parties concerned. Chief Forester Greeley suggested a national monument under Forest Service jurisdiction. This was peremptorily rejected by the National Park Service. At a second conference, Greeley proposed Glacier Bay as a "recreation area" within the Tongass National Forest, with a written agreement to turn it back whenever it should prove feasible to convert it into a national park. This too was totally unacceptable to the Park Service.

Delegate Sutherland was again cordial, and offered to introduce a bill establishing a national park, with mining permitted. The U. S. Geological Survey reiterated their opposition to any reservation with mining and prospecting prohibited. From this last conference came an interesting bit of information: that the only patented mining claims within the limits of the restricted, essential part of the proposed reservation were two owned by the Board of Elders of the First Presbyterian Church in Seattle.

At this point the issue appeared to be completely deadlocked: on the one hand powerful interests firmly opposed to a reservation with mining prohibited; on the other the Act establishing the national monument type of reservation, which prohibited mining, approved and supported by the conservation organizations that had backed the campaign for Glacier Bay. The committee went to its final conference with Assistant Secretary Finney (Jan. 2, 1925) in a state of complete discouragement. After the chairman had described the apparent stalemate, the Secretary, without committing himself absolutely, intimated in a manner strongly indicating certainty that Secretary Work would recommend to the President the establishment of a national monument at Glacier Bay, with mining prohibited, and that the President would follow Secretary Work's recommendation. Immediately after this conference Secretary Finney informed Mr. Cammerer, Assistant Director of the National Park Service, of the coming action.

The chairman has no knowledge of what happened behind the scenes to bring about this decision, over-riding, as it did, the determined opposition

of the Geological Survey, the Delegate from Alaska, certain interests in Alaska, and the less violent objections of the Forest Service. It should be noted that officials of the National Park Service told the chairman that the Glacier Bay campaign had behind it more widespread support than any similar movement in their experience. The credit for this goes mainly to the permanent Committee on Preservation of Natural Conditions of the Ecological Society, whose list of national and local organizations concerned with conservation of such conditions has already been mentioned.

On Jan. 8, 1925, the chairman sent to Secretary Finney a final statement of the position of the sponsors with regard to establishment of a Glacier Bay National Monument. Objections made by Parks were answered and the misinterpretation in Alaska of the temporary withdrawal noted and corrected. Willingness was expressed to accept substantially the boundaries suggested by Parks.

On Feb. 26, 1925, President Coolidge signed the Proclamation establishing the Glacier Bay National Monument:

GLACIER BAY NATIONAL MONUMENT
ALASKA

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA
A PROCLAMATION

WHEREAS, There are around Glacier Bay on the southeast coast of Alaska a number of tidewater glaciers of the first rank in a magnificent setting of lofty peaks, and more accessible to ordinary travel than other similar regions of Alaska,

And, Whereas, The region is said by the Ecological Society of America to contain a great variety of forest covering consisting of mature areas, bodies of youthful trees which have become established since the retreat of the ice which should be preserved in absolutely natural condition, and great stretches now bare that will become forested in the course of the next century,

And Whereas, This area presents a unique opportunity for the scientific study of glacial behavior and of resulting movements and development of flora and fauna and of certain valuable relics of ancient interglacial forests,

And Whereas, The area is also of historic interest having been visited by explorers and scientists since the early voyages of Vancouver in 1794, who have left valuable records of such visits and explorations,

Now, Therefore, I, Calvin Coolidge, President of the United States of America, by virtue of the power and authority in me vested by section two of the act of Congress entitled: "An Act for the preservation of American Antiquities", approved June 8, 1906 (34 Stat., 225), do proclaim

(Proclamation contin.)

that there is hereby reserved from all forms of appropriation under the public land laws, subject to all prior valid claims, and set apart as the Glacier Bay National Monument, the tract of land lying within the following described boundaries, to wit:

Beginning at the most southerly point of North Marble Island in approximate latitude $58^{\circ} 40'$ north and approximate longitude $136^{\circ} 4'$ west as shown on Coast and Geodetic Survey chart No. 8306; Thence southeasterly to the most westerly point of the largest island at the entrance of Bear Track Cove in approximate latitude $58^{\circ} 34'$ north and approximate longitude $135^{\circ} 56'$ west; thence following the mean high water of the southerly shore to the most easterly point of said island; thence east on a parallel of latitude to the crest of the divide between the waters of Bear Track Cove and Bartlett Cove; thence northeasterly along this divide to the summit of the divide between the waters of Excursion Inlet and Glacier Bay; thence northerly along this divide to the crest of the divide between the waters of Glacier Bay and Lynn Canal; thence northerly and westerly along this divide to the International Boundary line between Alaska and British Columbia; thence southwesterly along the International Boundary line to the summit of Mt. Fairweather; thence southeasterly to the summit of Mt. Lituya; thence easterly and southerly along the divide between the waters of the Pacific Ocean and the waters of Glacier Bay and Icy Strait to the summit of Mt. LaPerouse; thence easterly across Brady Glacier to the summit of the mountain marked 4480 on Coast and Geodetic Survey chart No. 8306 in approximate latitude $58^{\circ} 33'$ north and approximate longitude $136^{\circ} 38'$ west; thence northeasterly to the summit of the mountain marked 4030 on said chart in approximate latitude $58^{\circ} 34'$ north and approximate longitude $136^{\circ} 33'$ west; thence northeasterly to the most southerly point on the north shore of Geikie Inlet; thence northeasterly following the mean high water of this shore to the most easterly point of land at the entrance of Geikie Inlet, thence southeasterly to the place of beginning, containing approximately 1,820 square miles.

Warning is hereby given to all unauthorized persons not to appropriate or injure any natural feature of this monument or to occupy, exploit, settle or locate upon any of the lands reserved by this proclamation.

And I do also proclaim that my order No. 3983 of April 1, 1924, withdrawing the public lands within the hereinafter described limits pending determination of the area therein which should be set apart for national monument purposes, is hereby revoked:

Beginning at the western extremity of Cape Fairweather on the west coast of Alaska, thence in a northeasterly direction to the summit of Mt. Fairweather on the international

(Proclamation contin.)

boundary between Canada and the United States, thence following such boundary easterly, northeasterly and easterly to Monument No. 157 of the survey of such boundary by the International Boundary Commission approved June 9, 1923; thence east following the latitude of said monument to an intersection with the right bank of Chilkat Inlet; thence southerly along the right banks of said inlet and Lynn Canal to Icy Strait; thence westerly along the north shores of Icy Strait and Cross Sound to the Pacific Ocean; thence in a general northwesterly direction along the shore of the Pacific Ocean to Cape Fairweather, the place of beginning containing approximately 2,560,000 acres.

And I do further proclaim and make know that pursuant to Public Resolution No. 29 of February 14, 1920 (41 Stat., 434), as amended by Resolutions Nos. 36 and 79, approved January 21 and December 28, 1922, respectively (42 Stat., 358, 1067), it is hereby ordered that the public lands in that portion of the area last above described not included in said Glacier Bay National Monument by this proclamation, subject to valid rights and the provisions of existing withdrawals, shall be opened only to entry under the applicable homestead laws by qualified ex-service men of the war with Germany, under the terms and conditions of said resolutions and the regulations issued thereunder, for a period of ninety-one days beginning with the sixty-third day from and after the date hereof, and thereafter to appropriation under any public land law applicable thereto. Subsequent to the date hereof and prior to the date of restoration to general disposition as provided herein, no rights may be acquired to the lands so restored by settlement in advance of entry, or otherwise except strictly in accordance herewith.

The Director of the National Park Service, under the direction of the Secretary of the Interior shall have the supervision, management, and control of the Glacier Bay National Monument, as provided in the act of Congress entitled "An Act to establish a National Park Service, and for other purposes", approved August 25, 1916 (39 Stat., 535), as amended June 2, 1920 (41 Stat., 732).

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

Done at the City of Washington this 26th day of February in the year of our Lord one thousand nine hundred and twenty-five, and of the Independence of the United States of America the one hundred and forty-ninth.

[SEAL]

CALVIN COOLIDGE

By the President:

Charles E. Hughes
Secretary of State.

[No. 1733]

The boundaries as here defined were approximately those suggested by Parks, the only significant change being inclusion of a wide strip bordering the east shore of the lower bay from Mt. Wright south to and including Beartrack Cove. These boundaries had been approved by the committee's representative in Washington, Dr. Griggs, on Feb. 9.

The committee charged with managing the campaign made its final report to the Ecological Society at its annual meeting in December, 1925:

On February 26, 1925, President Coolidge proclaimed the establishment of the Glacier Bay National Monument. A copy of the proclamation is attached hereto.

The final boundaries have been considerably reduced from those originally suggested. The environs of the mouth of the Bay have been omitted on account of some slight settlement and possible agricultural potentialities. All the essential features are included: all the glaciers; all but one of the known areas of inter-glacial remnants; a thoroughly adequate selection of vegetation areas with accompanying animal life including portions of ancient forest which antedates the last ice advance, and all stages in the development of postglacial communities. This is now in a state absolutely free from disturbance for all time. Even prospecting is prohibited, an unexpected concession and against the recommendation of the United States Geological Survey.

The only opposition came from Alaska on account of agricultural possibilities and prospecting. Most of it was inspired by the great extent of the temporary withdrawal and has been mollified by the exclusion of the land around the mouth of the Bay. The Committee made every effort to avoid antagonizing the people of Alaska and to show that the Reservation would be to their benefit.

It is gratifying to find that credit is given to the Ecological Society in the Presidential Proclamation and also in the Annual Report of the Director of the National Park Service. The Society may congratulate itself on having performed a distinct and definite service both to science and directly to the Nation.

The Committee wish to express their appreciation of assistance from other members of the Society and especially to the Sub-Committee for the directory of organizations interested in conservation. Circular letters were sent to organizations listed which resulted in a flood of communications in support of the project which was of the greatest influence. The directory has thus proved its value conclusively. We wish also to express our appreciation of the aid given by other organizations in the United States and Canada. We desire to extend our appreciation also to the Department of Botany of the University of Minnesota which provided efficient stenographic service in carrying on the campaign.

Having accomplished the purpose for which it was appointed the committee begs to be discharged.

William S. Cooper, Chairman
C. C. Adams
R. F. Griggs
Barrington Moore

IV. CAMPAIGN AGAINST PERMITTING MINING IN THE NATIONAL MONUMENT

In the January, 1936, number of Cosmopolitan Magazine (issued in December, 1935) appeared an article by Rex Beach entitled "The Place is Alaska -- the Business is Mining". At that time unemployment resulting from the Great Depression was still widespread. Beach in this article proposed a grandiose plan that, according to him, would go far toward alleviating this unfortunate condition: the national government should take energetic action looking toward the unlocking of the mineral treasures of Alaska -- action which would at the same time furnish a multitude of jobs to the unemployed. His project comprised three stages. First, army aviators should make an aerophoto map of the Territory; second, government geologists should be set at work investigating promising localities; third, a great army of tenderfoot prospectors should be subsidized, with a leavening of the older, experienced breed.

As an entering wedge, he urged the opening to mining of the Glacier Bay National Monument. It is reported, but not officially confirmed, that Beach presented this scheme to President Roosevelt, and that he looked upon it with favor. The project may well have appealed to the man who advocated and largely carried through such grandiose, but much more reasonable projects as WPA, CCC, and the Shelter Belt.

The following quotations from the above article pertain to the Glacier Bay National Monument:

Within an hour's flying from Juneau, the capital of the Territory, lies an area of some eighteen hundred square miles which has been set aside as a national park, a "Monument", so called. By government edict it was withdrawn from mineral entry in 1925 in order that the timber and the scenery might be preserved. There is no timber worth saving, and nobody visits the region except an occasional Indian seal hunter.

This summer I saw and tested free milling gold ore taken from this area which ran better than three hundred dollars a ton. At Juneau the largest mine in the territory, employing eight hundred men, is operating profitably on ore that runs ninety cents a ton.

Those rich values can't be prospected or their extent determined until this glacial Monument is thrown open to miners by the Department of the Interior, for to do so would constitute a trespass. Indications point to the presence of a rich mineral belt here which can be readily explored and cheaply worked. It might easily develop into a great producing field. This Monument serves no purpose whatever except to lock up potential wealth and retard development. . . .

Such reserves as this should immediately be opened up to mineral entry and every encouragement offered to their orderly development.

Beach discussed the matter with Secretary of the Interior Ickes, Assistant Secretary of the Treasury L. W. Robert, Dr. Philip Smith of the Alaska Division of the U. S. Geological Survey, Delegate from Alaska Anthony J. Dimond, and by correspondence with Director of the National Park Service Arno B. Cammerer. To the last-named he expressed his conviction in a letter of Jan. 3, 1936, that

there can be no doubt that important mineral deposits lie inside the Glacier Bay National Monument and that they can readily be explored and their value determined at no cost to the Government provided the area is reopened to mineral entry. . . . There are sufficient men in southeastern Alaska to prospect this area quickly and if results are encouraging it should stimulate mining activity throughout the Territory and make it easier to promote some such development program as I outlined in my magazine article. Much of this area is so accessible and so bare of soil that it would require no photographic reconnaissance. In this section a man can do general prospecting with a pair of field glasses. . . . Nothing would act as such a powerful shot in the arm, not only for Alaska but for the whole country, as a significant new gold discovery.

Beach also in a letter of Dec. 20, 1935, emphasized the alleged uselessness of the area as a protected reservation:

The greater portion of it is absolutely barren and the only timber, such as there is, lies along the southern edge. It is not a good game refuge, nor are there any fishing streams or lakes in which salmon spawn. Presumably there are some sheep and goats in the St. Elias Range but it is the last place anybody would go for bear, moose or caribou. [See excerpts from report by Joseph Dixon below.] In fact the whole area is like a haunted house and I doubt if ten white men have visited it in the last ten years aside possibly from some surveying parties.

In his last statement Beach ignored three scientific expeditions in the last seven years.

Beach, in a letter of Jan. 3, 1936, maintained that

inasmuch as some claims, staked before the Monument was created, have been declared legal [actually two-- those owned by the First Presbyterian Church of Seattle, already mentioned, and never developed], it seems absurd and wasteful to prevent further exploration.

Beach stated, finally, in the same letter that

Delegate Dimond has prepared a bill for introduction at this session of Congress to reopen the Monument and if there is no objection on the part of the Department of the

(Campaign Against Mining, contin.)

Interior I assume it can be passed. . . . I'm hopeful, therefore, that the National Park Service and the entire Department of the Interior will look with favor upon Delegate Dimond's bill.

On Jan. 3, 1936, Delegate Dimond introduced in the House of Representatives the following bill (H. R. 9275):

A BILL

To permit mining within the Glacier Bay National Monument.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That all laws of the United States which apply to public lands and which relate to entry upon and use and appropriation of such lands for mining purposes shall apply within the Glacier Bay National Monument, Alaska, notwithstanding the reservation contained in the proclamation of the President dated February 26, 1925.

The bill was referred to the Committee on the Public Lands, Representative DeRouen, Chairman.

On Jan. 6, 1936, Mr. Cammerer informed me of the situation and asked me for an appraisal of the project, in particular "what effect prospecting and mining might have upon the wildlife of the area; how such activities might react upon the ecological relationship which the Monument is designed to protect; and any other information which you judge to be helpful."

In my reply (Jan. 11) I made the following points:

The Glacier Bay region constitutes a unique laboratory for the study of phenomena both geological and biological, related to glacial recession. It is possible to observe here in actual operation the processes that went on over much of northern North America during the waning phase of the Pleistocene glaciation. Until my visit this year to other points on the coast of southern Alaska I had not realized how unique is Glacier Bay in this respect. In all the region there is no other locality (with the possible exception of Russell Fiord, at Yakutat Bay) where the ice has receded with such phenomenal rapidity during the last two centuries. There are remarkable opportunities here for study of glacial mechanics, and especially phenomena related to recession, such as the behavior of stagnant ice and the formation of pitted outwash plains. The area opened up to invasion by plants and animals is of enormous extent. The vegetation is creeping in with surprising rapidity. Repeated photographs at given points taken during the nineteen years of my acquaintance, show a very striking advance. The same is true of the animals. Last summer I saw on the shore of Reid Inlet, far up the bay, a coyote and a big

(William Cooper's reply, contin.)

Alaska brown bear. In order to reach that point they must have traversed many miles of glaciers and snow fields; but there they were, actually ahead of the forest in their arrival. These individuals may not survive, but their presence shows that animals as well as plants are advancing rapidly into the ice-vacated areas.

There are also the remarkable remains of interglacial forest, occurring at many points. More are being constantly brought to light by the recession of the glaciers. Last summer we found a new one, the best of all. In summing up at this point, I would say that the Glacier Bay Monument is equivalent in value to other reservations where features of scientific importance are preserved, and that it has the added advantage of exhibiting geological and biological processes in actual operation at a rate so rapid that striking changes are evident through intervals of a few years. If the time should ever come when national park status would be desirable, it would furnish an unsurpassed field for the work of the ranger naturalists, where the fundamental principle of change and development in nature could be convincingly demonstrated.

The next point for consideration is the amount of damage that would be inflicted upon the peculiarly valuable features of the Monument by opening it to mineral exploitation. The glaciers would probably not be seriously harmed; they are too big to suffer much from human interference. This is not true of the biological features. It may be admitted at once that mere prospecting on a limited scale might do little damage. But legal prospecting implies legal development of profitable ore bodies, if found, and such activities would work havoc upon the biological features of the region. Mining operations involve extensive use of timber, and local sources would be first utilized. The shores of the bay are at present, for the most part, bare. But the timber is coming in, and there are, even now, many groups of trees of usable size well within the boundaries of the reservation. These are increasing constantly in size and number. It is safe to say that mining activity in the vicinity would result in the cutting of the young trees as fast as they attained suitable proportions. Natural development of the new forest would thus be seriously interfered with, if not stopped entirely. It would, of course, be possible to forbid the cutting of timber within the boundaries, but enforcement of such a regulation would require policing to an extent that the Park Service is probably not able to provide.

The same danger would beset the animal life. Game is scarce, but is definitely coming in. The presence of even a sparse mining population would seriously hinder or prevent its establishment.

If we assume the presence of valuable ore deposits, and carry to their logical conclusion the desire of those wishing to open the Monument to mineral exploitation, we

(William Cooper's reply, contin.)

may visualize the establishment within the boundaries of the Monument of a thriving and populous new mining center, with stamp mills and all the accessory activities that go with the industry. Such development, by vastly intensifying the destructive tendencies just pointed out, would utterly defeat a large part of the purpose for which the Monument was created. Those desiring the reopening may say that such large-scale development is extremely unlikely, and in this I agree. But they will not deny that such a consummation to their efforts would be accepted with enthusiasm.

For these reasons I feel very strongly that the present prohibition of all mineral exploitation should be continued and enforced.

It is evident, too, that the problem presents implications affecting the fundamental policy of the Park Service with regard to the National Monuments. If Congress passes the proposed bill, a precedent will be established which may lead to future attempts to invade other reservations. I cannot imagine a precedent more dangerous to each and every reservation under control of the Park Service--the assumption by Congress of authority to override the settled policy of the Service in special instances, under pressure of local interests. A firm stand in this case may prevent endless future difficulties.

Returning, in conclusion, to Glacier Bay, I feel that the National Park Service, in formulating its policies, should look far into the future, and I believe that it has consistently done so. The present bareness of the region is a stage in a great developmental process. In the course of the next century the aspect of the country will undergo an amazing change. Future visitors to the Monument (or perhaps National Park) will have available, in the known history of the bay extending back to 1794, carried still further into the past through the evidences of glacial action and the presence of interglacial forests, a demonstration of nature, not as a static thing, never changing, but as something constantly and in orderly fashion undergoing development.

Mr. Demaray of the Park Service on Jan. 23 transmitted to me a report on the game species of the Glacier Bay National Monument by Dr. Joseph S. Dixon. The following excerpts are pertinent:

Experience indicated that most of these birds [white-tailed ptarmigan, abundant at Muir's old cabin site] could have been easily wiped out by a few miners with guns within a few weeks.

Alaska Brown Bears were found on September 9, 1932, to be present in goodly numbers within the monument at Bear Track Cove and along the good salmon stream which lies entirely within the south-east corner of the present monument. Two large Alaska brown bears were seen walking around in the open grassy meadows at the head of the Cove.

(Excerpts from Mr. Demaray's report, contin.)

This is the best natural location in Alaska that I have found in 25 years experience, in which to watch, study and observe Alaska brown bears under wholly natural primitive conditions. A good anchorage for boats lies near at hand and this river area contains the closest available timber to the mining areas. I fear that both the Alaska brown bears and the timber would suffer serious destruction if the monument should be thrown open to extensive mining operations.

Black bears are reported from the area but they are far outnumbered by the big Alaska brown bears.

Among the fur bearers of the monument we find mink, marten, red fox and lynx. These animals are not numerous even now, and experience elsewhere has shown that their numbers would be greatly decreased by winter trapping if the monument is opened up to permit trappers to come in disguised as miners.

I found in 1932 that salmon were abundant in the river that empties into the head of Bear Track Cove. In fact this is one of the finest salmon streams in the region and lies entirely within the present monument. Opening the monument to mining would I fear, seriously interfere with the Game-birds, Alaska brown bear, Fur-bearers, Fish and timber inside the monument. The fact that some of these natural resources are limited in the monument makes their preservation just that more important.

The Ecological Society of America, having sponsored the original campaign, naturally came to the defense of the Monument in this new crisis. The original committee was reactivated, with personnel the same as before except for Barrington Moore, who in the meantime had established residence in England. In February the chairman made a trip to New York and Washington to confer with officials and other interested persons. Color movies taken by him during the previous summer in Glacier Bay and Prince William Sound were shown to several groups, including Park Service personnel. Officials of the National Park Service expressed themselves as being very desirous of keeping the Glacier Bay National Monument closed to mining, both for the sake of the Monument itself and because of the unfortunate precedent that would be set by its opening. They considered the situation definitely a critical one, and felt that the President, Secretary Ickes, and Congress had heard only the other side of the case. If a vigorous effort were not made, the bill would probably go through by default. The President had sent a notation to the Park Service to the effect that if mineral possibilities existed, the Monument ought perhaps to be opened to prospecting. They had already recommended to Secretary Ickes that \$10,000 be appropriated for the Geological Survey to make a thorough mineral survey of the area next summer, with no action until this had been done.

Dr. W. C. Mendenhall, Director of the U. S. Geological Survey, stated that the Survey would be glad to make such an investigation if funds were available. He said that there was no definite knowledge of the mineral

possibilities within the Monument. It is similar to the region around Juneau and other places where profitable mining has developed, and therefore had promise to that extent. He thought that any promising area should be open to prospecting. He added that he realized that the Park Service had to maintain a policy of exclusion, but he thought that exceptions should be made. The Park Service, of course, would not consider making an exception as long as they thought they had a fighting chance of maintaining exclusion, but if total exclusion proved impossible, an arrangement might be made whereby certain areas scientifically important might be reserved from prospecting. I pointed out that such protection would be ineffective with any policing that could be furnished.

Dr. Philip Smith of the Alaska Division of the Survey stated that there was no exact knowledge of the extent and character of mineralization within the Monument; a detailed exploration would be necessary, and a full summer would be none too long.

Dr. John C. Merriam, President of the Carnegie Institution of Washington, stated as a general principle that economic needs must be considered as well as aesthetic and scientific, but that the latter must have equal weight. As to Glacier Bay, its scientific and aesthetic values are known and unquestioned, while its economic values are unknown. Therefore no change should be made in present status without investigation.

It was apparent from these and other conferences that if the bill were to be stopped, an immediate campaign must be undertaken. The committee accordingly again put in motion the apparatus used in the first campaign. A circular letter presenting the situation and asking for help was sent out to several hundred organizations and individuals. The response was even more gratifying than in the earlier campaign. To our knowledge, more than one hundred and fifty organizations sent protests to the Committees on Public Lands of House and Senate. Special emphasis was put upon the clear reasonableness of postponing action until a thorough survey of the mineral possibilities of the Monument had been made. The National Park Association and the Wilderness Society cooperated through similar campaigns. Personal letters from the chairman to President Roosevelt and Secretary of the Interior Ickes brought the expected perfunctory secretarial response. Delegate Dimond replied at length (Mar. 13): "I would not have introduced the bill were there any chance that its passage would result in the impairment of the beauty and utility of the Glacier Bay National Monument. The objections which you, and others of like mind, entertain towards this measure are based on lack of knowledge of conditions." A telegram from B. D. Stewart, Commissioner of Mines for Alaska, was quoted by Dimond, stating that there is "specific information of discovery of several deposits of gold and copper" and that the "entire area embraced in Monument almost totally devoid of wild life of any kind, and extensive glacier fields and denuded surface render area unfit for animal habitation; other natural features are of such type they cannot be defaced or destroyed by human agencies." Delegate Dimond continued:

May I invite your attention to the fact that the Act creating the Mt. McKinley National Park expressly provides that the mineral lands therein may be prospected for and developed. Quite a number of prospectors have worked within the area of the Park and yet no complaint has ever been made that the wild life in the Park has been disturbed or that the Park has otherwise been injured by these operations.

I wish to assure you that I agree with everything you have said concerning the beauty and attractiveness of the Glacier Bay National Monument and the desirability of preserving it substantially as it is. But I know that prospecting and mining within the boundaries of the Monument will not injure it in the least. Moreover, I have definite information that large mineral values exist in this area.

Mention should be made of generous help given by Ansel F. Hall, Robert Marshall, Gifford Pinchot, Stewart Edward White, and Robert Sterling Yard.

The campaign accomplished its purpose; H. R. 9275 did not leave the committee room.

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Five days before the close of the session, another bill, with the same intent as the earlier one, was introduced in the Senate by Senator Schwel- enbach of Washington. It is reported, though without official confirmation, that Beach made a second call on President Roosevelt the day before the introduction of the bill, and that word passed from the White House to the Secretary of the Interior that the bill should not be opposed. The bill is given below:

[PUBLIC--No. 750--74th CONGRESS]

[S. 4784]

AN ACT

To permit mining within the Glacier Bay National Monument

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That in the area within the Glacier Bay National Monument in Alaska, or as it may hereafter be extended, all mineral deposits of the classes and kinds now subject to location, entry, and patent under the mining laws of the United States shall be, exclusive of the land containing them, subject to disposal under such laws, with right of occupation and use of so much of the surface of the land as may be required for all purposes reasonably incident to the mining or removal of the minerals and under such general regulations as may be prescribed by the Secretary of the Interior.

Approved, June 22, 1936.

The bill passed the Senate on June 18, the House on June 19, and Congress adjourned on June 20. President Roosevelt signed the bill on June 22. The entire procedure was thus carried through in one week. No

one likely to attempt opposition knew of the affair until it was a fait accompli. Naturally it aroused widespread indignation among organizations interested in nature conservation. A new committee was organized, representing several of the most powerful of such organizations, to consider possible future action. The members and participating organizations were as follows:

William S. Cooper, Chairman, Ecological Society of America.
 John H. Baker, National Association of Audubon Societies.
 Wallace W. Atwood, National Parks Association.
 S. B. Locke, Izaak Walton League.
 Joseph Hyde Pratt, American Forestry Association.
 E. A. Preble, American Nature Association.
 Henry B. Ward, American Association for the Advancement
 of Science.
 Robert Sterling Yard, Wilderness Society.

This committee published in the National Parks Bulletin, February, 1937, a report outlining the history of the Monument, with special emphasis on the Rex Beach episode. The concluding paragraph is as follows:

The undersigned committee, representing several national organizations interested in the preservation of natural conditions in areas of outstanding scenic and scientific worth, has been organized to consider the Glacier Bay situation. It has seemed to us that the first essential step is to put before the country a full statement of the facts. We believe that this will convince all fair-minded persons that the opening of the Monument to mining without preliminary investigation of its mineral resources was an unjustifiable act attained by unfair means; that it involves serious danger to the purposes for which the Monument was established and that it constitutes a precedent exceedingly dangerous to the future of our National Park system.

No action was recommended at the time, and it soon became obvious that such would be hopeless. Further effort was devoted to making the best of an unfortunate situation.

S. 4784 stated that use of the surface of the land incident to mining would be governed by "such general regulations as may be prescribed by the Secretary of the Interior". The Park Service, accordingly, during the summer of 1936 proceeded to formulate the prescribed regulations. Robert Sterling Yard, of the Wilderness Society and National Parks Association, was asked to participate in the discussion. It was agreed that, while use of timber is a fundamental mining right, the regulations should be made as much stiffer than usual as would be possible without antagonizing the Bureau of Mines. In particular, it was agreed that use of "timber" significant in the ecological purposes of the reservation should be prohibited, and the present writer was asked to phrase that part of the regulations and to suggest any other points that should be included.

The general regulations as finally issued were not specific as to privileges accorded the owner of a mining location; responsibility was

passed on to the National Park Service. The following excerpts are from a circular issued by the General Land Office:

The owner of a mining location has a right to use timber on the claim and other natural resources of the land necessary for development and mining the minerals. In such use he will be required to comply with any regulations then in force governing the cutting of timber or use of other resources in the monument area. . . .

The owner of the claim and all persons holding under him shall at all times conform to any rules now prescribed or which may be made applicable by the Director of the National Park Service governing occupancy of lands within the national monument.

The hoped-for rush of prospectors to the newly opened National Monument did not materialize. Rex Beach made at least one prospecting trip to Glacier Bay during the summer of 1936. In collaboration with Joe Iback, resident on Lemesurier Island, just outside the entrance to Glacier Bay, he seems to have had a prospect location in the vicinity of the Lamplugh Glacier. Captain Tom Smith went with them on this occasion, and made two other trips the same summer on prospecting ventures of his own.

The following news item appeared on Oct. 25, 1936; unfortunately the name of the paper is unknown:

Fred Stone, grand old trouper of stage and screen now under contract to RKO Radio, will trek into the Alaskan wilds with Rex Beach next April to become a plain, old-fashioned pick and shovel gold miner.

"Some distance from Juneau, Beach owns a gold mine which he intends to start working in the spring. While equipment is being moved in, he and Stone intend to do a little personal mining of the rough-and-ready type.

Another actor, John Barrymore, is reported to have been associated with Joe Iback. Aside from these, the present writer has no personal knowledge of mining activity within the Glacier Bay National Monument.

During the summer of 1936 Dr. J. C. Reed made a general survey of the mineral possibilities of the Monument for the Geological Survey (Department of the Interior press release, Feb. 9, 1937). He reported prospecting in progress in two places: near the terminus of the Reid Glacier and on the east shore of the bay near Sandy Cove. Of the first locality he wrote: "Free gold, some of it coarse, was panned from some of the more intensely mineralized vein material"; of the second: "A copy of a return from the Tacoma smelter on about 4 tons of ore reported to have come from this property indicates a content of 0.37 ounce of gold and 0.15 ounce of silver to the ton." His general conclusions were as follows:

Ore minerals are reported to have been found in place at other localities in the Glacier Bay region and have been found also in the rock debris brought down by the glaciers

(Dr. J. C. Reed's general conclusions, contin.)

from geologically unexplored country. The deposits examined indicate a genetic relationship between the granitic rocks and the ore deposits. In the vicinity of Glacier Bay many miles of igneous contacts against older rocks have not been mapped, and many of the miles that have been mapped, principally by J. B. Mertie, Jr., have not been thoroughly prospected for ore deposits.

On the other hand, prospecting has thus far failed to disclose any large deposit of ore minerals. None of the deposits examined can make large mines, and it has not yet been demonstrated that any of them can be successfully mined on a small scale. Even tentative predictions of the economic value of these small, numerous, and diversified deposits must await the receipt of assay results.

V. ENLARGEMENT OF THE NATIONAL MONUMENT

The writer discussed with Park Service officials and others in 1936 and 1937 the proposed enlargement of the Monument. Of the factors which brought this about he has no personal knowledge. It was naturally gratifying to learn that the limits of the Monument after enlargement were essentially those of the temporary reservation of 1924, recommended by the Ecological Society at the outset of its campaign for establishment. The only important area originally included, now omitted, is the strip bordering Lynn Canal, and this is partially compensated by additions along the north boundary and at the north end of the Pacific strip. Even the foreland east of the mouth of the bay, the principal point of contention in the original campaign, is now included.

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