

Joe Fouchar, Division of Public
Information, Headquarters

Nov. 29, 1962

Dale J. Cook
Assistant Information Officer, SAN

CPUC NEILANDS PETITION--BODEGA CLIPS

MI:DJC

Attached for your information are copies of Dr. Neilands' petition and backup letters to the California Public Utilities Commission for reconsideration in the PGL&E Bodega application. Also, the a.m. newspapers reported that a second petition has been filed for reconsideration of the CPUC decision, which by the way was effective November 28, 1962.

Clips relating to both petitions are attached.

Enclosures:
As stated.

cc: Robert Lowenstein, Director, DL&E, HQS w/enc
E. W. Smith, Director, Compliance Region V w/enc



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Rehearing On Bodega Site Asked Atom Plant Held Danger

A new petition asking the State Public Utilities Commission to hold another hearing on the \$61,000,000 nuclear power electric generating plant Pacific Gas & Electric Co. wants to build on Bodega Head was filed yesterday.

David E. Pesonen, secretary of the Bay Area Chapter of the Northern California Assn. to Preserve Bodega Head and Harbor, asked for the rehearing.

He said the question of possible dangers of radiation should be explored again. He also pointed out the location of the proposed plant is near the San Andreas earthquake fault.

The plant safety system, Pesonen said, was given only casual attention at earlier hearings.

A similar petition was filed on Tuesday by Dr. J. B. Neilands, a University of California biochemist, who claimed he had new evidence of the plant's possible harmful effect on marine life in Bodega Bay.

Neilands charged that UC Chancellor Edward W. Strong had held back an unfavorable report made by scientists investigating the feasibility of constructing a university marine biology station adjacent to the power plant.

A university spokesman for Strong said yesterday that the chancellor had not released the report because it was on a specific administrative problem and not of general interest.

Strong denied that the report contained an unfavorable recommendation regarding locating the biology station adjacent to the power plant.

New Plea to Block A-Plant

SF Chronicle 11/28/67

A second petition was filed with the State yesterday seeking to block construction of a nuclear power plant on Bodega Head on the Sonoma county coast.

The petition, filed by a Bay Area conservationist group, asked the California Public Utilities Commission to reconsider its order—effective yesterday—giving the Pacific Gas & Electric Co. permission to build the \$61 million project.

The petition charges that a PUC examiner in the original hearings did not receive or encourage a full airing of the facts.

It further says a rehearing is warranted on grounds that new scientific knowledge has developed concerning the safety of the power plant's reactor, radioactivity hazards, and the role of an earthquake fault.

The request was made by the Northern California Association to Preserve Bodega Head and Harbor, Bay Area chapter. It followed by 24

hours another petition in which Dr. J. B. Neilands, a University of California biochemistry professor, requested a rehearing, mainly on grounds the examiner had not considered a report in which UC scientists expressed doubts about putting the reactor next to a university marine biology station there.

Professor Neilands charged UC Chancellor Edward W. Strong had held back the scientists' report on the site.

Dr. Strong said yesterday such investigative reports are never made public. He said final evidence in the investigation showed the nuclear discharge "would not adversely affect the shore life."

However, the committee chief, Dr. Ralph Emerson, professor of botany, said the report made it clear that to have a marine laboratory next to an atomic power plant "presents certain problems." But, he said, the report indicated any neighbor-

ing installation would present problems.

The Public Utilities Commission's legal division will review the two petitions soon and send its opinions to the Commission, which will then decide whether to order a rehearing.

U.C. Prof Battles Atom Plant

Biochemist Claims
Project Will Harm

Marine Researching

Richard W. Miller
By HERB MICHELSON

A University of California professor "who has to say no" has openly taken on his boss, Pacific Gas and Electric, the California Public Utilities Commission, the Atomic Energy Commission and 250,000 gallons of hot water a minute—although not necessarily in that order.

Dr. John B. Neilands, 41, a professor of biochemistry and a man busy wrestling with formulas and his conscience, asked the PUC yesterday to reconsider its approval of construction of a PG&E nuclear power plant at Bodega Bay.

'DESTRUCTIVE'

U.C. is building a marine biological station next to the proposed plant site. And Neilands says he is convinced the nature of the plant operation will destroy the value of the area for biological research. The university administration knows this, too, Neilands says, but won't admit it.

Neilands says Chancellor Edward W. Strong is pigeonholing a two-year-old report made by a faculty committee that recommended against building the lab next to the nuclear plant.

This report says: "Bluntly stated (Bodega Bay) is a unique, Class A site for a marine facility being exploited for power production."

REASON GIVEN

But a U.C. spokesman said today Chancellor Strong "didn't feel the report was important enough to be released publicly." The spokesman said the university administration believes there is no scientific evidence to show the \$71 million power plant will damage research at the lab.

Neilands, and a few other scientists, insist, however, that the building of an access road to the plant and the fact the nuclear facility will discharge 250,000 gallons of hot water a minute will hamper research efforts.

The chemistry professor, who tangled with Chancellor Strong on the same issue last May, contends U.C. wanted to build its lab at Bodega a half dozen years ago.

BODEGA BEST

Then, he says, when PG&E came up with its nuclear plant proposal, U.C. stepped aside and started considering new sites for the lab. But Bodega Bay was still the best.

"It became a question of a lab there or none at all," says the professor. And scientists who earlier opposed the conflict finally were reconciled by

U.C. Biochemist Takes on Field in Atom Plant Battle

Continued from Page 1

their desire for a lab someplace, he adds.

"The university administration told them frankly they'd have to take PG&E there and live with them."

EMERSON COMMENT

Dr. Ralph Emerson, professor of botany, headed the faculty committee which prepared the new controversial report in 1969. He said today, "We recommended the university go ahead with plans for the lab despite whatever problems" might crop up from the neighboring power plant.

The major "possible risk" of the side-by-side layout, he said, and the committee said, would be from the hot water emissions. "But the report," he added, "doesn't call for the ouster of PG&E from that site."

In May, Neilands circulated a petition protesting construction of the plant. Neilands, who received little faculty support in getting signatures, said he may have erred in not discussing the petition first with the chancellor.

AGAIN DEFEATED

His move to oppose construction of the plant also was defeated in an Academic Senate vote. The chancellor at that time said it was inappropriate for the university to take official positions on matters not involving the school or its work.

But Neilands didn't let this chiding stop him. Even when

the Atomic Energy Commission gave its unofficial blessing to the plant and the PUC approved its construction two weeks ago, Neilands continued his opposition.

"Guess you'd say I'm persistent," he persisted. "This makes me seem a little shrill and puts me in an awkward position. I've had to wrestle with my conscience."

OTHER PROTESTS

Conservation groups and several other scientists from colleges in the area have protested the power plant con-

struction. The conservationists, bitter in their opposition, say the grounds in the picturesque Bodega area should be preserved in their natural state.

Neilands—who will have no direct connection with the marine research lab—feels, simply, "there's a higher use for Bodega Head."

He said there has been "no static or repercussions" in his fight with the chancellor's office. "But somebody has to say no. And in this case, it's me."

PETITION

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the matter of the application of Pacific Gas and Electric Company for a certificate of convenience and necessity to construct, install, operate and maintain Unit No. 1, a nuclear power unit, at its Bodega Bay Atomic Park.

Application No. 43808

Decision No. 64537

Now comes the undersigned with a petition for a rehearing designed to resolve the controversy on the effect of the proposed Bodega Bay Atomic Park on the Bodega Head area as a locale for marine biological research and study.

Introduction Contemporary marine biology is a new frontier in natural science which, in the long view, may prove as beneficial to mankind as the exploration of outer space or investigations in the sphere of atomic energy. Work in this field has moved on from the classical phase to the point where, for example, we can envisage solution of the world food problem through algal culture. In addition, research on such direct objectives is certain to be rewarded with purely fortuitous discoveries such as the recent finding that, among a large number of experimental animals tested, only in the sand dollar will thalidomide consistently kill the developing embryo¹.

In 1956 the Chancellor's Faculty Committee of the University of California centered its attention upon Bodega Head as the favored site for a marine facility. This selection, which was made after careful study, was certainly an intelligent choice (see the National Park Service report which finds Bodega Head to be "one of the significant biologic areas of the Pacific Coast" ²).

The purpose of this petition is to call for a rehearing which would conclusively assess the effect of the subsequent planned industrialization of Bodega Head on the biological integrity of the area.

Since the University of California is a public institution it follows that an inconvenience to the University becomes at once also a public inconvenience.

Basis for petition for rehearing During the Commission hearings, expert marine biologists from Stanford University (Western Society of Naturalists), San Francisco State College and the University of the Pacific testified in opposition to the Bodega Bay Atomic Park. Dr. Joel Hodgsoth, from the latter institution, is a marine biologist of 20 years experience. He is Director of the University of the Pacific Marine Station at Dillon's Beach which is only a few miles from Bodega Head. On March 5 of this year he informed the Commission that "Location of this plant and its service roads will seriously interfere with the original plans of the University of California to utilize this area for marine research" ³. This opinion is supported by the attached letter from Dr. J. D. McElroy (Attachment I).

Now in Decision No. 64537 the Commission has determined that Bodega Bay Atomic Park will not impair operation of the Bodega Marine Laboratory. They state "Many of the protestants seemed to take the position that the nuclear plant and either marine biology or conservation are mutually exclusive, that one cannot exist along side the other. The record, however, belies their position."

This opinion appears to be based solely on certain statements made in the course of the hearings by Mr. A. S. Leopold, Assistant to the Chancellor of the University of California (Berkeley). Since these statements by Mr. Leopold were at variance with those of expert marine biologists from other universities, protestants made persistent attempts to subpoena the files of the Chancellor's Faculty Committee on the Marine Biological Laboratory. All of these requests were denied by the Hearing Examiner.

During the past few months the history of University of California operations at Bodega Head has been researched with the result that new and important evidence has been brought to light. This material provides the basis for the present request for a rehearing.

Newly discovered evidence The possible deleterious effect of the Bodega Bay Atomic Park on the function of the Bodega Marine Laboratory may be discussed under two headings, namely, (a) the effect of the warm water discharge and (b) the effect of the tidelands access road.

(a) Warm water discharge The ultimate effect of the warm water effluent on shore life is, admittedly, difficult to predict. However, Mr. Leopold's contention that it is not expected to be serious is probably an optimistic conclusion. In the summer of 1960 the University apparently regarded this degree of pollution as intolerable (Attachment II; the volume has now been fixed at 250,000 gallons per minute) and the decision was made to abandon Bodega Head entirely.

The committee of biologists spent the autumn of 1960 searching for an alternate site and it has been rumored that on November 29, 1960, they transmitted a sharply worded report to Chancellor Seaborg. The present Chancellor, Dr. E. W. Strong, has declined to make this report available; interested members of the faculty and until recently

he has managed to keep it out of the public domain. However, the Sanational Times for October 11, 1962, has now published what is claimed to be a verbatim passage from that report, namely, "weighing all relevant aspects, we agreed unanimously that there was not a single one of those sites that was equal to Sodega Head as it now stands. Bluntly stated, a unique Class A site for a marine facility is being exploited for power production."

In the meantime Pacific Gas and Electric had retreated to the tip of the headland and the Committee reluctantly decided to occupy the adjoining property to the north.

At the Commission hearings in May, 1962, Mr. Leopold sought to justify the return to Sodega mainly on the basis of certain studies made in Great Britain concerning the effects of power plant discharges on marine ecology. During cross examination, however, the British studies were shown to be slipshod and inapplicable to the Sodega Head situation. Furthermore, the University calculations, confessed Mr. Leopold, were based on the expectation of one unit whereas the Company had announced that in the near future three additional units would be installed thus bringing to 1,000,000 gallons the amount of warmed water discharged per minute. Limitations of space do not allow a total exposition of the other deprivations to the environment which may ensue from the rapid transfer of this volume of water.

(b) Tidelands access road The University was apparently taken completely by surprise by the convenient arrangement between Sonoma County and PG&E whereby an access road would be laid through the state-owned tidelands. Chancellor Strong characterized the subsequent realignment of a portion of the road over University property as a "minor concession" and he pleaded with the Army Corps of Engineers to withhold from Sonoma County the necessary construction permit (Attachment III). In the public hearing which followed on February 15, 1962, the Acting-Director of the Marine Laboratory, Dr. Cadet Hand, condemned the roadway "in its entirety". He stated that the harbor frontage of the University was atypical and essentially useless for biological studies and that the proposed road would destroy "some of the very values which led us to choose this headland as our site in the first place" (Attachment IV).

In spite of these pronouncements Mr. Leopold appeared before the Commission to testify, without elaboration, that the University no longer opposed the road. He mentioned that Dr. Hand took a firmer stand against the road than Chancellor Strong but this conclusion is not supported by Attachment III to this petition.

In the recent decision of the Commission it is perhaps significant that Commissioner Holoboff filed the following dissenting opinion on the location of the tidelands road: "I find nothing in the arguments for the tidelands road which suggests that it is necessary for it to be so located in order to effectively serve the plant site; admittedly, an upland road would accomplish this purpose equally well. Nor do I find anything in these arguments which suggests that such a road would be inconvenient, for the record is replete with reasons suggesting substantial detriment to the public resulting therefrom". Indeed, the cost differential between a tidelands and an uplands route is nominal and there is nothing in the record to indicate that the applicant strongly favors the former location.

Footnotes

¹ THIS WORLD, San Francisco Chronicle, August 26, 1962

² PACIFIC COAST RECREATION AREA SURVEY, DEPARTMENT OF THE INTERIOR, 1959

³ Letter from Joel W. Hedgcock to Public Utilities Commission dated March 5, 1962

Prepared in Berkeley, California, this 26th day of November, 1962.

Distribution: To all appearances before A43808.

Respectfully submitted,

J. B. Neilands

J. B. Neilands

Attachment 1

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THE JOHNS HOPKINS UNIVERSITY
Baltimore 18, Maryland

Mergenthaler Laboratory
For Biology

May 9, 1962

Dr. J. B. Neilands
Department of Biochemistry
University of California
Berkeley, California

Dear Joe:

I have heard that an atomic installation is planned very near to where your new marine biology lab is to be located. I hope that this is not an irreversible decision. It would be most unfortunate to have such a plant near the laboratory site for, as you know, this will greatly alter the total ecology around the lab in a very short time. Unfortunately, there are too many places these days that are being contaminated by industrial wastes and as a consequence much of our shore line has been destroyed for biological studies because of our inability to control the situation. I hope that this does not happen at your new site and I encourage all of those who might be concerned to look into this matter in great detail before a final decision has been reached.

Sincerely yours,

W. D. McElroy
Chairman, Dept. of Biology
Director, McCollum-Pratt Inst.

WDM/hy

Note added by recipient:

Dr. McElroy is President of the American Society of Biological Chemists, the highest elective office in American biochemistry. He is a member of the Executive Committee of the Woods Hole Marine Biological Laboratory, the latter recognized as the foremost laboratory of its kind in the world, where he has taught the course in Physiology for five years. Dr. McElroy has been associated with an Ad Hoc Committee concerned with the granting of Federal funds for the establishment of marine research facilities.

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THE UNIVERSITY OF CALIFORNIA

Clark Kerr
President of the University

Glenn T. Seaborg
Chancellor at Berkeley

Office of the Chancellor
Berkeley 4, California
June 28, 1960

Mr. Philip S. Flint
The Sierra Club
611 Bryant Street
Palo Alto, California

Dear Mr. Flint:

I have delayed answering your letter of June 8, 1960 until I had received written reports from the oceanographers and biologists considering the Horseshoe Cove, Bodega Head site for a Marine Biological Laboratory. I have now received those reports, and will try to summarize them for you as requested.

Cooling water for the PG&E power station would be drawn continuously from Bodega Bay just inside the entrance channel, and would be discharged on the beach at a point about 4000 feet south of Horseshoe Cove. Pumping would be at the approximate rate of 200,000 gallons per minute. Normally, the discharge water would be 13 to 16 degrees Fahrenheit warmer than the intake water. At times the cooling water would be recirculated to raise its temperature approximately 50 degrees Fahrenheit above intake temperature to remove the growth of fouling organisms in the lines. The frequency of this operation can be predicted only by operating experience, but it was the opinion of the PG&E engineers, with whom our people consulted, that this might be once a month and for a duration of 20 minutes.

The oceanographers stated that normally the warmed water would flow to the south, away from Horseshoe Cove, but that northerly flows could be expected from time to time, and during these periods Horseshoe Cove might be expected to be bathed for periods of some hours in the essentially unmixed effluent at near discharge temperatures, i.e., 10 to 15 degrees Fahrenheit warmer than the normal ocean temperature in the vicinity.

The committee of biologists studied this report and concluded that they could not forecast with any precision what the consequent ecological changes would be, but the fact that the ecological future of Bodega Head was unpredictable made it undesirable to locate a marine laboratory at Horseshoe Cove, in view of the plans for the power station. Thus, the committee is now exploring alternate site possibilities.

I should like to correct a misconception contained in your letter to the effect that "The Laboratory was to be the second largest oceanographic station in the United States". In reality, the University is planning to develop a teaching and research station of modest size for use by the Berkeley and Davis campuses.

Sincerely yours,

Glenn T. Seaborg

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Attachment 111

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UNIVERSITY OF CALIFORNIA

Office of the Chancellor
Berkeley 4, California

Colonel John Morrison
United States Corps of Army Engineers
180 New Montgomery Street
San Francisco, Calif.

100-71-1761

Dear Colonel Morrison,

In response to United States Army Engineers District, San Francisco, Corps of Engineers Public Notice No. 62-51, the University of California wishes to register a formal protest against the proposed tidelands road along the west shore of Sodega Harbor.

After many years of study the University chose Sodega Head as the best site for the new Marine Biological Research Laboratory. The choice was based upon many conditions, one of the most important being that the site offers maximum variety of ecological habitats which by their nature provide the greatest variety of faunal and floral elements. Our proposed plans call for research and teaching in all areas of marine biology and our success will in part depend upon ready access to a wide variety of organisms. The natural shoreline is one of the richest sources of invertebrate life. It would be obliterated by the road.

Looking back on the history of biology, many significant advances in knowledge have had their origin in the study of marine organisms such as those that occur along the shore of Sodega Bay. Most of our basic knowledge of cell division, oxygen transport by blood, nervous transmission, excretion and reproduction have come from the study of sea urchins, worms, squids and other marine animals. The discoveries originally made on these lowly creatures have played vital roles in our understanding of man and from marine research have developed principles in medicine upon which we are all dependent for our well being. Since there is no way to predict from what particular marine organism some new and important discovery may be made in the future, we can only regard every marine organism as a scientific asset to be preserved for study.

In the higher reaches of the tidal zone - where the road will be - there are large numbers of interesting marine animals. Several species of clams (*P. staminea*, *T. ducosata*, *M. arenaria*, *M. irus*, *M. baltica*, *M. rasuta*) are to be found only in this habitat. Three of them, the cockles *Protocardia* and *Tapes* and the long-necked clam, *Mya*, are highly regarded as human food. Huge beds of the ghost shrimp (*Callinassa*) and its associated fauna occur here too. The road would cover beds of the alga *Vaucheria* and the associated Nudibranch mollusk *Aidoris* as well as the numerous species of smaller organisms such as copepods, protozoan and segmented worms. In places the projected road moves into deeper water where it would affect other important organisms such as the edible horseneck and Washington clams. Thus the proposed road would obliterate in the vicinity of our laboratory an important segment of the local fauna.

From the standpoint of the University an overland route to the Campbell Cove area would be very much preferable. Such a route would be more scenic, would avoid encroachment of the tidal prisms and would preserve the natural shoreline and tidal areas which we hope to use as sources of organisms for our studies. At present the harbor shoreline is an attractive and biologically rich area as attested by the thousands of shore birds which gather there to feed. These values would disappear with a tidelands road while an interior routing would avoid the significant losses indicated above.

The University has discussed the routing of the road with Sonoma County officials and received from them a minor concession in the form of inland routing of a short portion of the road on what will be part of the Marine Research Station site. This particular bit of shoreline which will be preserved is actually atypical, consisting largely of wind-blown sand from the adjacent dunes; it does not have many of the fauna elements present elsewhere along the shore. At the early meetings with the County, Dr. Cedric Hand, the Acting-Director of the Marine Research Station, informed the meeting that he opposed the shoreline road and, in fact, that he would be derelict in his duty if he took any other stand. The destruction of the biological resources would lower the value of Sodega Bay as a scientific research site, and on these grounds we register our objection to the proposed road.

cc	Charles de Turk
Clark Kerr	Richard Hartsock
Emil Mrok	D. Mazis
V. Guidotti	Cedric Hand
J. Prather	James Moulton
Richard Croker	Clom Miller

Sincerely,

E. W. Strong

TESTIMONY OF DR CADET HAND, ACTING-DIRECTOR UNIVERSITY OF
CALIFORNIA BODEGA MARINE LABORATORY, BEFORE ARMY CORPS OF
ENGINEERS HEARING ON TIDELANDS ROAD, FEBRUARY 15, 1962

Colonel Morrison and Gentlemen. I am Cadet Hand, Associate Professor of Zoology and Acting-Director of the Marine Research Station of the University of California. I am a professional marine zoologist, with experience at marine laboratories on both the east and west coasts of the United States and, as well, have spent extensive periods of time at marine laboratories in Hawaii, New Zealand and Australia.

I am going to divert from my prepared statement to make clear the reasons under which I am present. When Mr. John Prather addressed you he read a letter signed by Chancellor Strong dated February 8, 1962. I have a copy of that letter before me. Since it is clear by the introduction of that piece of evidence into the record by Mr. Prather that he felt that this was an aid to his cause, as he represents the County, I would like to say that I have Chancellor Strong's permission to be here to protest this record in its entirety.

With these comments, I will return to my prepared speech.

A little background on the reason why the University of California has chosen Bodega Head as a site for its new marine laboratory is pertinent to my discussion. In our search for a site, which has been an active search since 1953, one of the primary considerations has been that the site must provide ready access to a maximal variety of marine organisms. This means that we have looked for locations which best combined the variety of life to be found in protected bays and harbors, mud and sand flats, sandy beaches and the open outer coast. Very few situations exist in California which meet these requirements and which are close enough to the University campuses of Davis, San Francisco and Berkeley to be available to the students, faculty and research staff of these institutions. Bodega Head, we found, was the only location which met all of our requirements. We critically examined the area from Montorey to Bodega and beyond and systematically eliminated the Montorey area, the San Francisco area, the Bolinas area, the Pt. Reyes area and the Tomales Pt. area. Bodega Head clearly is an exceptional site from our point of view, and based upon our recommendations the Regents of the University have authorized the acquisition of a portion of the headland for our use.

Now, why do we need a maximal variety of marine organisms? The history of biology is relevant here. Man's knowledge has accrued slowly and it is interesting to note that while today we have a huge knowledge of ourselves, the knowledge which the doctor applies to keep us well, or to repair us if we are injured or ill, came in the first instance from studies of organisms other than man himself.

In many instances these organisms have been marine ones and we can point to such organisms as squid and worms for our basic knowledge of nervous function, to worms again for the chemistry of blood and to clams for information on heart function.

Our knowledge of the chemistry and biochemistry of embryology and subsequent development, as well as our knowledge of the intimate details of cell division have come from the study of marine animals, the latter in fact from studies of sea urchins collected right here along our Sonoma County shores.

The ocean has not only contributed organisms which fortuitously have provided us insight into ourselves, but from the oceans come rich harvests of food. To make full use of the ocean and its many secrets we are going to have to investigate in the most intimate manner every marine organism known to us, and we must zealously guard the biological assets we have around us. To lose the opportunity of critically examining a single marine organism may mean the loss of our only chance to make man's life better in some particular aspect.

As further evidence of the necessity of studies on marine organisms, I should cite the fact that there are at this moment three bills pending in the Senate and House of Representatives of the U.S. which are devoted to increased federal support of marine research activities and the President's (of the U.S.) new budget doubles the size of funds for marine research. There is an air of urgency concerning the need for marine studies and man's very survival on this planet may depend upon the knowledge we gain from the sea. Certainly, in the face of expanding and exploding populations, the development of our use of marine resources must be multiplied manyfold if we are to solve even our needs for food.

With these introductory remarks, I will now turn my attention to the matter of the west shore road. It should be clear from my previous remarks that the University as represented by its scientists must hold as critical every organism available to us. We are developing a new venture, a marine laboratory, to take advantage of the remarkable diversity of organisms available in the harbor and along the coast of Bodega Head.

We cannot tell you the precise value that may come from the study of any one species but history has taught us that each organism has its own secrets and we know full well that each additional bit of new information will find its place in our total knowledge

(continued)

of man and this world.

Some of this new information may unlock difficult problems related to our health, our safety and our overall well being. Each organism is a treasure-trove, a museum of biological information, waiting for us to turn it to our own advantage. To destroy a single species could, in the long run, turn the balance in our fight for survival against us and cause our final demise.

This is a grim and gloomy picture, but it is scientifically valid. To choose between man's survival and the fleeting values provided by the west shore road is thus a simple matter.

The road itself as proposed will destroy untold thousands of organisms. The best beds of rock cockles in this area will be covered by the road as well as such other edible clams as Washingtons, Hotsonecks and the introduced steamer, the soft shell clam. Great beds of the blue and white ghost shrimp, the sausage worm Urochis, clam worms, ribbon worms and many different segmented worms will meet their end under the spoilage used to build the road.

Beds of a curious marine plant, Vaucheria, and an associated marine slug will be destroyed, as well as a host of other organisms. The higher reaches of the shore, where the road will be, are favored feeding grounds of great flocks of curlews, avocets and other kinds of shore birds. These great flocks of birds, incidentally, are testimony to the wealth of small marine animals which live along those shores. It is the loss of these many marine organisms and the great values that they have to us as scientific resources that causes us to strenuously protest the road.

The County of Sonoma has been generously cooperative in rerouting a portion of the road over the proposed University property, and they have promised additionally to remove the road from essentially all of the tidelands along that portion of the shore. For this we are most grateful.

Unfortunately, a large portion of the harbor frontage of the University site is atypical and is loose windblown sand rather than the rich finer silts of other parts of the shore. Thus, while this rerouting protects and saves many organisms, the road throughout the rest of its length destroys some of the very values which led us to choose this headland as our site in the first place.

It is regrettable that a great University and a great County find themselves at odds, but the values lost to the University, County, State, Nation and World by the presence of such a road far outweigh the short-term values such a road might bring to the County and its users.

Thank you.

Applause

(Statement of Dr. Cadet Hand marked Exhibit RRR)