

MINUTES

WAYS AND MEANS COMMITTEE

NEVADA STATE LEGISLATURE - 59th SESSION

February 23, 1977

The meeting was called to order by Chairman Mello at 7:30 a.m.

PRESENT: Chairman Mello, Mr. Bremner, Mrs. Brookman, Mr. Glover, Mr. Hickey, Mr. Kosinski, Mr. Serpa and Mr. Vergiels.

EXCUSED: Bode Howard, due to illness.

SITTING IN: Dean Rhoads for Bode Howard.

OTHER PRESENT: John Dolan, Assembly Fiscal Analyst; Bill Bible, Budget Division; Speaker Joe Dini; Assemblyman Dan Demers; Dr. Lloyd Smith, Desert Research Institute; Dr. Warren Kocmond, Desert Research Institute; Dr. George Linkletter, Desert Research Institute; Mr. Mark Dawson, Desert Research Institute; Lowell Smith, Division of Forestry; Assemblyman Don Moody; Senator Rick Blakemore; Norman Hall, Conservation Director; Ken Boyer, Environmental Commission; Julian Smith, Esquire; Ted Bendure, Conversation District; Don Paff, Colorado River Resources; Rolan Westergard, Water Resources; Addison Millard, State Lands and Bob Long, Department of Forestry.

A.B. 279. Dr. Smith stated that the Desert Research Institute has been concerned about drought conditions in Nevada for a long time, and since the DRI has much experience in weather modification through cloud seeding, they were pleased to respond to Assemblyman Moody's request for a realistic weather modification proposal for weather modification cloud seeding over the Carson, Walker and Truckee River catchment basins.

Dr. Warren C. Kocmond, Acting Executive Director of the Energy and Atmospheric Environment Center at DRI, spoke to A.B. 279. (His speech is attached.)

Dr. Smith stated that the budget DRI is requesting for the project is displayed in the attachment. For 1977, the total requested funds are \$158,102; the 1978 total requested funds are \$602,561; and the 1979 total requested funds are \$604,918.

Since the Executive Budget (Page 201) has already recommended an amount of \$115,939 for 1978 and \$105,931 for 1979, A.B. 279 deducts the Executive Budget amounts from the total and therefore requests \$486,622 and \$498,987 for the 1977-79 biennium.

The weather modification budget which was included in the Executive Budget was not to carry on a really serious cloud seeding operation, but was to consider and to evaluate feasibilities of cloud seeding in the Walker and Carson Basins.

Chairman Mello asked how much overhead was built into this budget. Dr. Smith said that when the budget was prepared, they put in a 67% overhead on salaries and fringe benefits, which is their federal government negotiated overhead. Chairman Mello stated that he didn't think it was right for DRI to charge the state a 67% overhead. He pointed out that DRI is a state agency and would think that DRI could do a service for the state, which they are a part of, for a lot less than 67%.

Chairman Mello said it was his understanding that DRI is negotiating with the federal government right now for 56%. Dr. Smith stated yes,

and this has just changed. Chairman Mello asked Dr. Smith if he was aware that many agencies in government today do contract jobs for other state agencies and only charge 6% to 8% overhead. Dr. Smith replied that DRI has no quarrel with trying to do the best services they can for the people in the state. However, there is a certain necessary lower limit to the indirect costs or overhead.

Chairman Mello asked where the overhead goes. Mr. Dawson stated that the overhead DRI generates pays for the operation and maintenance of the plant. Chairman Mello asked if DRI didn't get the money, would the plant close down? Mr. Dawson said if they didn't bring grants and contracts in, yes it would. Chairman Mello asked if we don't appropriate the money in A.B. 279, will the plant close down? Mr. Dawson said no, but for the people they are putting into this project, they would then have to secure other grants.

Chairman Mello asked where else the overhead applied. Mr. Dawson stated that it pays for the plant operation and maintenance and operating expnses in the President's office and Business office.

Chairman Mello stated that if we only looked at the rate that they are negotiating now with the federal government at 56%, it is a savings of \$47,541. Chairman Mello stated that the one thing he wanted to make clear was that Dr. Smith is not dealing with the federal government. They are dealing with state government, and Chairman Mello thinks they should be a little kinder. Chairman Mello stated that he thought they could operate for less than what they requested. Mr. Dawson said the actual overhead costs to sustain this program will be in the neighborhood of 31%. Dr. Smith said that at some appropriate time the right people should get together and come to an agreement on what kind of overhead makes sense and is fair to the state. Chairman Mello stated that they do have governmental agencies servicing other governmental agencies that are only charging 6% to 8% for overhead. Chairman Mello stated that the thing they don't want to do is provide for the overhead that they already have in this bill. Chairman Mello said the 31% sounded better to him. Mr. Dawson stated that this does take into consideration the salaries that are included in the Executive budget.

Mr. Kosinski asked exactly what expenses are being paid in A.B. 279 out of these dollars that are not already included in the budget. Mr. Dawson replied that what is included in the Executive Budget are salaries for the President's office, salaries for the Business office and a salary for the Executive Director and the secretary in the Energy and Atmospheric Center.

Lowell Smith, State Forester Firewarden, spoke to A.B. 279. (His remarks are attached.)

Assemblyman Dan Demers spoke to A.B. 279. Mr. Demers requested that A.B. 279 be amended to include the cloud seeding program for the southern part of the state, in particular the Spring Mountain Range. The Spring Mountain Range is roughly 120 miles long in the southern part of the state. It is also the primary watershed area for Clark County, and Las Vegas generally produces 100,000 acre feet of water per year. The primary reason Mr. Demers is interested in this is that he has discussed this with people from DRI and the write-up of what they recommend is attached. The evidence the DRI people have given Mr. Demers is that they can augment the snow pack up to 25% in the winter.

Mr. Demers would like the Committee to consider amending A.B. 279 for the purpose of including the Spring Mountain Range. (Amendment to A.B. 279 is attached.) The cost for seeding the Spring Mountain Range for this year is nearly \$86,000.

Assemblyman Moody stated he didn't have any objections to the Amendment as long as it will not delay action on the bill.

Speaker Dini spoke to A.B. 279. He stated that this is a critical period in Western Nevada. Speaker Dini said that Western Nevada stands to lose

approximately \$25,000,000 in crop production if the state can't generate some water for farmers. At the same time the state is experiencing irreparable damage to the underground water basins in the valleys where we have to pump our water to support agricultural crops. In the Reno and Truckee Meadows area, he thinks it is critical for Nevada to develop additional water resources because there is going to be a domestic problem this year.

Mr. Rhoads asked with the Idaho and Washington litigation, what effect it will have on Elko, Humboldt and White Pine Counties. Right now they are facing the problem that if they don't get a sufficient amount of moisture they will have to curtail grazing. Mr. Rhoads asked if there were any steps that would be possible to increase moisture in north-eastern Nevada? Mr. Rhoads stated several years ago the silver iodized generators proved successful and they did get some storms in after seeding. Mr. Rhoads stated that a number of people felt this system would be cheaper than the aircraft.

Dr. Kocmond stated that the silver iodized ground generators were used extensively for awhile in the Walker and Tahoe Basin programs. The point is that in the short time available, DRI felt targeting could be dramatically improved with the use of aircraft. Also, DRI is interested in getting in-cloud measurements because little is known about what the situation is really like in the clouds. There is some belief that ground base seeding may not be nearly as effective as the material may not be getting to the clouds. In order to enhance their overall opportunities for success, they would be better off seeding from an aircraft. Any kind of seeding that is done on the upwind side of the Sierras provides the best opportunities for success.

Dr. Smith pointed out that the Bureau of Reclamation and the State of California are going to carry out a rather extensive cloud seeding operation on the west side of the Sierras. They will be watching that very carefully. Chairman Mello asked DRI to provide more information relative to the Elko area.

Mr. Glover asked how long it took for a storm to regenerate or recharge itself. Dr. Kocmond stated that it is sometimes a misbelief that a storm comes across that is just a slug of water, and that really is not the case. As a storm develops and matures, it is continuous in deriving its moisture from distances that are quite away from the actual area in which you are doing your seeding. The storm moves along deriving moisture from distant spots as it moves and is continuously recharging itself. At one time the only speculations were that any kind of seeding in one area would necessarily rob another area of precipitation. Now in some recent studies there are indications that the downwind effects are constant because what you do is perhaps make a storm vigorously unstable and it precipitates even more downstream than it might otherwise have done. However, it is not really proven as such so you can't say there is going to be a positive or negative effect at this time.

Chairman Mello asked Dr. Smith, Dr. Kocmond, Dr. Linkletter and Mr. Dawson to get the new figures for the Committee today.

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES. Norman Hall gave a presentation on the Department of Conservation and Natural Resources, including the budget for the Director's office. (Please see attachment.)

Mr. Kosinski stated that the program statement indicates that the \$6,000 is part of the department's costs for this for a Parks management study. Are there other costs involved within the budget? Mr. Hall stated that what they proposed to do is to contract under the Inter-Governmental Personnel Act to get some individual to come in to do this study for them. Mr. Bible stated that normally when you contract with IPA personnel, they will come in under some kind of a cost-sharing arrangement and they will provide a portion of the individual's salary. The \$6,000 is a "one-shot" appropriation and is the state's portion.

All existing positions are filled.

Mr. Serpa asked why are they conducting this study? Mr. Hall replied that this is a management study that Mr. Hall requested because over the years Parks has been an agency that has started out small and over the last five to ten years has grown very rapidly. Mr. Hall sometimes questions whether Parks should be in the construction business, how far they should be in the land acquisition business and is there some other agency in the state government, such as a planning board, which can take over and design and construct Park facilities. Mr. Hall is looking for someone who has the capability to take a look at the Parks organization. Mr. Hall has also requested the Personnel Department to come in with a productivity study of the Division of Parks.

Mr. Kosinski asked the job responsibilities of their Public Information Officer. Mr. Hall stated that his responsibilities included getting information to the public and he works with the divisions to make sure that this information is put out in a usable form. He also works on reviews and reports that the divisions put out.

Mr. Glover asked Mr. Hall how he arrived at the \$6,000 figure for the management study. Mr. Hall stated he had talked by telephone with the Civil Service Commission in San Francisco, with the Regional Director of the Forest Service and the Regional Director of Bureau of Outdoor Recreation in San Francisco. They said that if the state could come up with \$6,000, you could get a man for five or six months.

STATE ENVIRONMENTAL COMMISSION. Mr. Hall gave a brief presentation on the State Environmental Commission (Please see attachment). Mr. Hall stated that you will note in the program statement the Commission sets the regulations for air and water. This group is meeting more and the workload has increased to the point where they are requesting a full time Senior Clerk Steno to provide services to the Commission.

In-State Travel. Mr. Hall stated that in-state travel is for the Commissioners themselves, plus the Research Analyst and the Deputy Attorney General.

Chairman Mello asked how many people would be traveling in the State Environmental Commission Division. Mr. Bible stated twelve people. Mr. Bible stated that their budget contemplates five meetings a year with a number in Las Vegas and a number in Reno.

Case By Case Review (Page 637). Mr. Boyer stated that this is really a very complicated item. It is a review that essentially came out of A.B. 708 of the 1975 Session, which mandated the Environmental Protection Commission to study standards applicable to fossil fuel fires and generating facilities. Over the past two years, the Commission has done so and one of the alternatives that came out of this was a case by case review, or power plant by power plant review. The best example is the new Valmy plant that is being proposed at the present time. The case by case review would take into consideration such things as degradation of the ambient air. If the Valmy plant sends in an application to build, then the State Environmental Commission will have to go to the local entities to look at land use management and meteorological conditions. There are a lot of public hearings that would be involved. At this time the Commission has postponed those particular regulations. They are not in effect for a case by case review at this time. Chairman Mello asked if that had any bearing on why the Governor did not recommend the money. Mr. Bible said correct, plus that also relates to the increase in the in-state travel.

(S.B. 39 transfers this budget to the Department of Human Resources.)

(S.B. 153 puts it in a new department in conjunction with the SCR8 study last Session.)

Mr. Hall stated that the SEC sets the regulations and Ernie Gregory of EPS is the enforcement arm.

Mr. Serpa asked Mr. Hall what his department did regarding the problem in Ely. Did they take a stand on that? Did they help the state battle the federal government? Mr. Hall said yes, they did.

TAHOE REGIONAL PLANNING AGENCY. Mr. Hall gave a presentation on the Tahoe Regional Planning Agency. (His comments are attached.)

FEDERAL LAND LAWS. Julian Smith, Esquire, representing the 17 counties on the state Committee on Federal Lands stated that the Committee has, over the past year and a half or two years, met on the average of three times a year within the budgeted \$2,500. The three meetings a year have been held in either Carson City or Reno. They conduct two day meetings, usually Friday and Saturday. The 13 members of the Committee are all non-paid, non-compensated members. The amount asked for in this budget is simply for travel. The Committee does meet in Reno because they calculated that as the cheapest place to meet. The increase they are asking for and which has been recommended by the Governor will permit the committee to meet twice as often each year and also give them the opportunity to pay an honorarium for speakers to come in from outside the state.

Last year's budget had \$1,000 for out-of-state travel. They haven't been using it for out-of-state travel. The Committee hasn't traveled out-of-state and they don't plan to. They have been using that money for their in-state meetings. The Committee consists of representatives of the various users of federal lands. Essentially the Committee is a cross-section of various people using the federal lands.

As to A.B. 278 that takes this budget and abolishes it and the duties that are being performed now would be transferred to the State Land Use Planning Advisory Council, Mr. Smith stated that the entire Committee thinks that would be inappropriate. Mr. Smith met with Bruce Arkell yesterday and they have been meeting with him ever since the word came out. Mr. Smith stated that he believed Mr. Arkell is going to recommend amendments to A.B. 278 which would reinstate their Committee and change it from the present structure to eliminate local government representatives which they oppose.

Mr. Smith was not contacted at all by the person who did the study.

Mr. Serpa asked Mr. Rhoads if he had worked with this Committee. Mr. Rhoads replied yes, and said he felt this was one of the most outstanding Committees whose hearings he has ever attended. The two times that the Governor has reacted, once on mining regulations and once on grazing regulations, it has been thanks to this Committee that the Governor has talked to the Secretary of the Interior and backed them up a little bit. Mr. Rhoads would like to see this Committee have a little more muscle.

OIL & GAS CONSERVATION COMMISSION. Mr. Hall stated that this Commission is made up of the State Engineer and the Director of Bureau of Mines and Geology. They operate on revenues that they generate themselves. They are asking for a budget of \$4,102, which all comes from their own fees.

DIVISION OF SOIL CONSERVATION DISTRICTS. Ted Bendure gave a brief presentation on this budget, including the responsibilities of the Commission, accomplishments, budget statement, out-of-state travel, operating expenses, dues and registrations, state owned building rent and EPS planning grant (Please see attachment).

Mr. Rhoads stated that the \$218,000 is apparently federal money and asked if the federal water bill does not get passed this Session, what happens to the money? Mr. Bendure replied that the bill Mr. Rhoads is referring to and the money have really no correlation. This is strictly planning money, and the bill you will be seeing has to do with implementation, and planning will go on whether or not the bill passes.

DIVISION OF COLORADO RIVER RESOURCES. Mr. Don Paff gave a presentation of the Division of Colorado River Resources budget. (His remarks are attached.)

Mr. Kosinski stated there was a study done on public utilities in the State of Nevada and understands that Mr. Paff handled that study. Mr. Paff answered that was correct. Mr. Kosinski stated that one of the recommendations by a consultant that was hired says that the Division of Colorado River Resources charged more money for their services and asked if they were limited by law the amount that they can charge? Mr. Paff replied that the statutes require that DCRS sell the power at no less than the cost to the State of Nevada. They are not limited not to sell it above that cost. Also, they are away from the regulatory power of the Public Service Commission (Chapter 701). It has been historical since the first contracts for the hydropower from the Hoover, Parker Davis and Colorado River Storage Project power to charge to customers at cost plus the administrative surcharge. The contracts that they have, some of them 30 years old, stipulate a charge per kilowatt hour equivalent to the cost to the state plus the administrative surcharge. The Hoover contract will expire in 1987, the Parker Davis contract will expire in 1986 and the Colorado River Storage Project Power contracts will expire, some in 1987 and some in 1989.

Mr. Kosinski asked if there were any contract that they are operating under now that are year to year? Mr. Paff replied no. Mr. Paff explained that under the contracts the administrative charge is enough to provide administrative coverage of their budget and thus under the contract terms, they have pre-advised them formally that their administrative charge can be raised. That is provided in the contract terms.

DIVISION OF WATER RESOURCES. Mr. Westergard spoke to A.B. 82 (Page A-22-\$300,000). Mr. Westergard stated that the intent of A.B. 82 is to provide funds to defray the state expenses in various litigation they are involved in around the state. In addition to the Truckee River litigation, which now encompasses some seven or eight lawsuits, they do have a pending suit in one other part of the state involving waters of the tributary of the Columbia River Stream System. It is difficult to anticipate what issue or what matter might come up next. They do know that as far as the Truckee River is concerned, they had one segment of the trial that constituted some 41 days of testimony. They feel that it is absolutely necessary that the state have adequate funds to represent their interests in their state's water resources in these matters. Chairman Mello asked if the amount was the same as last Session. Mr. Bible stated that last Session the amount was \$500,000 and the Session before was \$175,000.

Mr. Westergard stated that they presently had a balance of about \$200,000 in those funds and they feel that going into the beginning of the fiscal year, they should have a balance of \$500,000 on hand.

Mr. Rhoads asked if there was any room in the budget that provides for the Humboldt/Pershing project. Is there any functional way the state can get involved in that, and is there any funding at all to try to get it completed and get the job going? Mr. Westergard stated that about four years ago the Legislature did appropriate a sum of \$50,000 for an investigation of the Humboldt project. As to the Corps. of Engineers project, Mr. Westergard knows of no way that the state could now finance the Corps.' project; they are going to have to conduct the studies that they deem necessary to justify it on an economic basis.

Mr. Westergard stated that the budget for the Division of Water Resources is essentially to defray the expenses of meeting the state's responsibility in the administration, adjudication and distribution and planning of the state's water resources. This is accomplished through the head office in Carson City and branch offices in Las Vegas and Elko.

There is a decrease in staff from 29.5 to 27.5 positions. This is due to elimination of federal funding.

There are no requested increases in out-of-state travel.

The request in in-state travel and operating are essentially reflecting inflationary costs.

Legal and Court Expenses. In 1976-77 work program this amount was \$13,186 and the Governor has recommended slightly in excess of \$28,000. Currently, they have one half-time Deputy Attorney General and this request is to provide funds for a full time Deputy Attorney General. The Attorney General is considering the possibility or necessity of another full time Deputy Attorney General to be assigned to the Division of Water Resources and he understands that is under consideration by the Budget Division now.

Contractual Services. Chairman Mello indicated that the contractual services have gone down from the actual. Mr. Westergard replied that from the 1975-76 biennium, during that period there was some investigation for some economic factors as he recalls, involving water supply within the Truckee Meadows area. That was why there was an additional \$6,000 at that time.

The balance of the budget covers the Columbia Interstate Compact Commission. In 1975-76, only \$351.00 was spent, but there is, as was indicated today, some interest in what is going on up there in the northwest, and there are some potential conflicts between the northwest states as to the waterflow into the Columbia River Stream System. This compact might be one way to resolve these issues and Mr. Westergard thinks that the State of Nevada should have funding necessary to participate in any compact system.

The Geological Survey budget remains constant. Chairman Mello asked what value the U.S. Geological Survey provided Nevada. Mr. Westergard replied that they provide a lot of the technical expertise in their groundwater investigations. They also help them assess the results of the development of ground water basins. It also includes funds for the stream gaging program, and the water records that actually record the run-off from their stream systems.

Mr. Westergard stated that the federal funds are deleted from this budget. There is no money in next year's budget for those water planning grants, and similarly the item under Utah Coop. Program they expect to expire.

Mr. Westergard stated all existing positions are filled.

Mr. Serpa asked about the \$300,000 "one-shot". How will that be accounted for in the budget? Mr. Bible stated that there is a separate account for the "one-shot" appropriation and is handled on a separate basis.

CALIFORNIA-NEVADA COMPACT COMMISSION. Mr. Westergard stated that the program statement indicates that legislation is pending in U.S. Congress. Just last week two senators from Nevada, Laxalt and Cannon, did re-introduce the compact so it is currently pending there. There has been little activity as far as the compact negotiations or efforts are concerned over the last few years. Mr. Westergard is hopeful that with the water situation the way it is, not only here in Nevada and on the eastern slopes of the Sierras, but throughout the west and nationwide, there will be some interest in proceeding with the compact discussions and for this purpose they do think that the State of Nevada should have funds to undertake whatever negotiations may be necessary or to attend any conferences with the federal agency representatives.

Mr. Westergard stated there is one thing the Committee should be aware of and that is that in the State of California there were no funds appropriated for their half of the Commission. In fact their half of the Commission has been allowed to expire. He talked to the people in California yesterday and they assured Mr. Westergard if there is any indication whatsoever that there is any possibility of proceeding with the compact, they will find the means through their California Department of Water Resources to proceed on California's behalf.

Mr. Serpa stated that one member of the Commission said he felt they hadn't accomplished "a damn thing" over the years. Mr. Westergard

said he was the first one to agree that it has been extremely frustrating over the last two or three years not being able to get this before the federal U.S. Congress and their committees. The issue of what the division of water between Lake Tahoe and Carson, Truckee and Walker Rivers has to be settled some day. There are two alternatives: one is through an interstate compact and the other is through interstate litigation which would take place in the federal courts. Their experience in federal courts recently has not encouraged Mr. Westergard to proceed in that form, if in fact they have another form that is negotiated by representatives of the people to be affected. Mr. Westergard feels that the compact form is the way to do it.

Mr. Kosinski asked if the actual expenses in 1976-77 were going to exceed the \$63.00. Mr. Westergard stated that was the 1975-76 actual. In 1976-77, they do anticipate some meeting. One reason is that there has been a new federal representative appointed by President Ford. Mr. Kosinski asked what the ramification would be if they deleted this budget and made it effective upon passage of federal legislation? Mr. Westergard stated he thought they would need some funds to justify their position before the Congressional committees. This would require some trips to Washington, D.C. and some conferences at the local level with the federal agency representatives and their counsel. Mr. Westergard stated that he didn't believe they could wait two years if there is any chance in between times to get the program going. He said the funds won't be spent unless they are needed.

DIVISION OF STATE LANDS. Addison Millard gave a presentation on the Division of State Lands. (Please see attachment.)

Specialized Equipment. Mr. Millard stated that the \$9,000 is for a Plotting Calculator which will be utilized to plot state owned and selected parcels of land. The Plotting Calculator is the most feasible type of land recording equipment and it relates to the minimum staff of the Land Office.

Contractual Services. Chairman Mello asked what the \$5,000 was for. Mr. Millard replied that during the past year they have had contractual services from two engineering firms, Chilton, who did a study relative to the White Pine resource area, and Vassey-Scott, who have done an extensive study on Walker River Basin. Both those studies cost the department \$3,500 each, or a total of \$7,000.

Mr. Serpa stated that a bill was introduced by Senator Dodge which indicated Mr. Millard's agency be kept out of county land use planning. Mr. Millard said his department sees the bill as one that would eliminate the land use planning function totally. It removes all the authority within the statutes for them to make any decisions in those areas. Mr. Millard feels this would put Nevada back about four years. He believes some of the things that have been accomplished by their land use planners and some of the compliments they have received, particularly from the smaller counties, more than justify the retention. He honestly believes that the current statute provides for a number of things that perhaps people do not believe. They are not trying to tell anybody to do anything and this has been one of the criticisms that he has heard from several people.

Mr. Serpa said that he found in Churchill County when they were implementing a land use ordinance they hired a private firm. He said he didn't know how much input they had from the state. He didn't think Senator Dodge would introduce the bill just out of lack of something to do. Mr. Serpa asked if Mr. Millard had talked to Senator Dodge's office about the bill. Mr. Millard replied that Senator Dodge and Mr. Meder had some discussions. Mr. Millard has not personally discussed that with him since his coming aboard in November.

Mr. Glover asked Mr. Millard if Land Use Planning did the inventory for state highway property. Mr. Millard replied no, that is separate and apart from their function. The statute provides that the Highway Department maintain its own record of state lands and rightaways.

DIVISION OF FORESTRY. Lowell Smith gave a presentation on the Division of Forestry, including current programs, Rural Community Fire Protection, Cooperative Forest Management, Carson-Walker Resource Conservation and Development, Tree Insect and Disease Control, Desert Forestry, Las Vegas Nursery (Tule Springs), Reno Nursery, Pinyon-Juniper Utilization Progress Report 1973-1976, Marlette-Hobart Lake Watershed Plan and the NDF total work force (Please see attachment).

Chairman Mello asked how Mr. Smith's salary as State Forester compared with our neighboring states. Mr. Smith replied considerably less. Mr. Smith thought the figures ranged somewhere between \$1,000 for the states to the east and considerably more for California. Chairman Mello asked the salary comparisons of neighboring states such as Idaho and Arizona, the states that Nevada can be compared to. Mr. Smith replied approximately \$1,000 more. Mr. Smith's position is a 10.5% increase. Chairman Mello asked if after the 10.5% increase, if it was still \$1,000 less than the neighboring states. Mr. Smith replied yes.

Mr. Glover asked what happened if the Division of Forestry assisted a city or a county and they didn't have any money to pay the Division of Forestry. Mr. Smith replied that the Division of Forestry would pick up the whole tab. Mr. Smith stated that those are some of the areas where they have a mutual aid agreement and they may not be paid in dollars and cents, but they are paid in the mutual aid type of a program. These are common practices in fire protection programs. The ones that do pay are the federal agencies. Forestry has an agreement with them.

Mr. Glover asked how costs are adjusted if there was a fire that started on private land, burned across the state highway, onto BLM land and then back into city land. Mr. Smith replied that this is a very complicated program. If it is caused by the land owner, he can be taken to court and suppression costs can be derived from him. The BLM area, when the fire moved onto their area's responsibility, they assume the cost of that operation entirely. In Mr. Glover's hypothetical instance, the cost would be shared throughout and everybody would get the landowner if it was negligence or arson. If the fire is an accident, then of course, it's a different story.

Mr. Bremner asked with the current drought conditions that are pretty widespread throughout the state, if seasonals should be increased to try to stop fires before they get out of hand. Mr. Smith stated there is another means by which this can be done. There is a suppression fund. If the season gets extreme, which it looks like it probably will, then they can go in and use some of the suppression money to increase the staff.

Mr. Bible commented that if the Committee will look at the revenue for Cooperative Forestry, the agency requested \$153,000 and the Governor recommended \$279,000. Budget Division based their recommendation on the past level of receipt. The agency requested what they felt Congress may appropriate. If these monies do not materialize they may be back to Interim Finance.

Existing Positions. The Deputy State Forester position is vacant. It is presently out under advertisement to be refilled. Mr. Hall stated that he would recommend this position be unclassified. Chairman Mello asked why. Mr. Hall stated an unclassified Deputy would be more responsive to their unclassified supervisor. Chairman Mello asked Mr. Smith if, when he held that classified position, did he listen to his boss? Mr. Smith said yes.

Mr. Hall told the committee that the Colorado River Resources has a Deputy who is unclassified, Water Resources has a Water Commissioner who is unclassified and they would like to do this with both Parks and Forestry. Mr. Bible agrees that Deputies probably should be unclassified. Chairman Mello asked about Administrators being unclassified. Mr. Bible felt generally that Administrators should be unclassified. Chairman Mello would like a proposal from the Executive Branch on their criteria for classifying or unclassifying positions. Mr. Bible stated

that the law generally provides that Administrators be unclassified. There are some circumstances where administrators are unclassified except if there is a federal regulation.

Chairman Mello stated if we are going to get into taking positions and making them unclassified, he thinks they should start looking to all of them and not just do it piecemeal.

Mr. Glover stated it seemed strange to be going into this pattern right now when you examine Motor Vehicles. None of their division chiefs, let alone deputies, are unclassified.

Chairman Mello thinks it is a flimsy excuse to say that if you make a person unclassified he would be more responsive to the wishes of his boss.

New Positions. Mr. Smith stated that the Forester Pinyon Juniper position is a U.S. Forest Service grant paying the entire cost of the position.

The Forest Service R.C.&D. grant is also a 100% federal grant.

The state funded position is the Radio Technician. They have some 300 radio sets statewide and it is a tremendous load for the one radio technician to completely travel around the state to work on these radio sets. Mr. Smith stated that they have worked out a program with the radio technicians that he thinks can better utilize radio technicians throughout the state for their types of programs. They have worked with the Highway Patrol, the Fish and Game and Parks Departments and an agreement has been worked out where the placement of these people to do the work for everybody will enhance all agencies' operations.

Mr. Smith was asked to return February 24, 1977 to further testify to his budget.

A Motion to approve the Minutes of February 7, 1977 was made by Mr. Vergiels; seconded by Mrs. Brookman. Motion approved.

A Motion to approve the Minutes of February 8, 1977 was made by Mr. Vergiels; seconded by Mrs. Brookman. Motion approved.

A Motion to approve the Minutes of February 9, 1977 was made by Mr. Vergiels; seconded by Mrs. Brookman. Motion approved.

A Motion to approve the Minutes of February 10, 1977 was made by Mr. Vergiels; seconded by Mrs. Brookman. Motion approved.

A Motion to approve the Minutes of February 11, 1977 was made by Mr. Vergiels; seconded by Mrs. Brookman. Motion approved.

Chairman Mello appointed Mr. Kosinski, Mr. Hickey and Mr. Glover as a sub-committee for DLEA. Mr. Kosinski was appointed Chairman.

A.B. 279. Dr. Smith, Dr. Kocmond, Dr. Linkletter and Mark Dawson of Desert Research Institute appeared again on A.B. 279. Dr. Kocmond told the Committee that he has gone through the costs and they have applied the lesser indirect charge of 31% to all the salaries, plus fringe benefits. The detailed cost breakdown is attached.

Dr. Kocmond stated that the new cost summary reflects certain of the desires of Assemblyman Demers to include the Spring Mountain seeding program as well, but for this year only. The Cost Summary shows the effects of reducing the indirect costs from 65% to 31% for the Tahoe and Walker Basins. The new values are as follows: 1977 - \$145,011; 1978 - \$418,123; and 1979 - \$425,008. The additional support for these separate categories, such as salaries and fringe, travel and operating and equipment are appended to the Cost Summary (see attached.)

56

Mr. Vergiels asked what happens if the drought ends 12 months from now. What happens to the remaining budget portion in the event that weather conditions change? Dr. Kocmond replied that they would want to seed the severe and moderate storms anyway.

The cost for seeding the Spring Mountain Range in 1977 is \$81,635 (found on the last page of attachments). Therefore, the total cost of seeding for 1977 will be \$226,646 (adding \$145,011 for Tahoe and Walker Basins and \$81,635 for the Spring Mountain Range).

Chairman Mello stated that the Committee had saved a considerable amount of money from the 67% to 31%.

If the program is to be continued for 1978 and 1979 in Clark County (Spring Mountain Range), DRI will go to Interim Finance.

Mr. Bremner moved that the Ways and Means Committee amend A.B. 279 to change the language to include the Spring Mountain Range and to include the new dollar figures for the remainder of 1977, 1978 and 1979, including a recommendation for DRI to request support for the Spring Mountain seeding in 1977-79 from the Interim Finance Committee if the 1977 tests are successful; seconded by Mrs. Brookman. Motion approved.

Mr. Bremner moved that the Ways and Means Committee recommend a "Do Pass" as amended on A.B. 279; seconded by Mrs. Brookman. Motion approved.

The meeting adjourned at 11:15 a.m.

My name is Warren C. Kocmond, and I am Acting Executive Director of the Energy and Atmospheric Environment Center of the Desert Research Institute. Dr. Lloyd Smith has requested that I cover some of the more significant points of the proposed weather modification program that the Nevada State Legislature has asked the Desert Research Institute (DRI) to consider.

All of us are acutely aware that the State of Nevada is now experiencing its second straight year of drought conditions. Figures supplied by the U.S. Dept. of Agriculture - Soil Conservation Service¹ indicate that the Tahoe and Truckee Basin water storages are 23% of average, while the Carson and Walker Basins are only 20%. Under present conditions, Lake Tahoe is expected to drop to its rim elevation of 6,223 feet in June of this year. This would be the first time since October 25, 1961 that Lake Tahoe has dropped to its natural rim.

Thus with over two-thirds of the snow season over, most snow courses need at least 300% of average precipitation to reach April 1 averages. Although current drought has brought water supplies to everyone's attention, it should be of constant, long-term concern. The Legislature's awareness of this was made clear two years ago, when money was appropriated to study the potential for supplying additional water to the Walker Drainage by cloud seeding.

With this in mind then, what is the evidence that suggests that we should consider a cloud seeding program for snowpack augmentation. There have been several serious attempts to document the effects of seeding winter storms in both the Rockies and the Sierra. The National Academy of Sciences has reported² on two long-term operational seeding programs; namely, the Climax Project in Colorado which has been an ongoing program since 1960 and the Lake Almanor experiments in California performed from 1962 through 1967.

These programs showed that, over mountainous regions, the effects of seeding cold orographic clouds (i.e. clouds forced to lift as a result of a natural barrier) was to increase precipitation by between 10% and 30%. It is interesting to note that a 10% increase in the Walker Drainage would be enough to stabilize the level of Walker Lake during normal precipitation years.

Of even greater relevance to this discussion are the results of the recently completed Pyramid Pilot Cloud Seeding Project³ performed by the Desert Research Institute for the Bureau of Reclamation and the State of Nevada, Dept. of Conservation and Natural Resources. In this study, a randomized seeding experiment was performed in the Lake Tahoe Basin during the winters of 1972 through 1975.

The preliminary statistical analysis of data from the 23 recording gauges in the 1052 square mile target area show that if storms of all intensities (i.e. marginal, weak, moderate and heavy) are considered, then there was an apparent increase in precipitation of 16% while if only moderate and strong intensity storms are considered, the apparent increase was 25%. The equivalent apparent increases in total water into the target area as a result of cloud seeding were 169,000 and 245,000 acre feet, respectively, per year. (At the conventionally accepted value of \$20 per acre foot, this translates to about \$3.5 million and \$5 million worth of water).

Although statistical significance was not achieved (a total of 250 storms of strong and moderate character would have had to have been seeded to have an even chance of determining significance at the conventional 5% level - this would have taken eight winters of similar storm frequency), the results are sufficiently encouraging to warrant serious consideration of additional cloud seeding in the Walker River and Tahoe Basin regions.

¹Water Supply Outlook for Nevada. U.S. Dept. of Agriculture, Soil Conservation Service, in Collaboration with Nevada Dept. of Conservation and Natural Resources, Division of Water Resources, Feb. 1, 1977.

²Weather and Climate Modification, Problems and Progress Committee on Atmospheric Sciences, National Academy of Sciences, Washington, D.C., 1973.

³Draft Final Report on the Pyramid Lake Pilot Project, 1970 to 1975, performed under Contract No. 14-06-D-7000, prepared by the Desert Research Institute, University of Nevada System. Submitted to the Bureau of Reclamation, January 1977.

To this end, we are recommending a cloud seeding program which we believe offers the greatest opportunity for success in the short time remaining this winter. The program is to be directed solely at seeding moderate or heavy Sierra storms, such as the one experienced on Feb. 21 of this year. In the absence of storms, there is nothing we can do to increase the water supply from the atmosphere available to Nevada. If some do occur, and historically we have 8 between now and May 1, then we feel there is a reasonable chance to increase the amount of precipitation falling in the target area.

It is therefore recommended that:

(1) Airborne seeding of the Walker and Tahoe Basins be conducted on an operational basis during the remainder of the 1977 winter storm season.

(2) Airborne seeding of these same regions be conducted during the subsequent two winters and that snow samples and rain gauge data be collected during the project period. These data will form the basis for preliminary assessments of the overall effects of seeding in terms of targeting accuracy and seeding efficiency.

(3) In-cloud measurements be obtained in winter storms in order to determine natural ice crystal concentrations and in-cloud air motion. These measurements are considered an essential part of the program since they will provide an opportunity to more accurately determine where and how much seeding material to use as well as to optimize future seeding efforts.

The proposed project has been designed to use facilities and techniques developed by the Desert Research Institute under Federal funding. They are now ready to be applied to needs of the people of Nevada.

C O S T S U M M A R Y

TAHOE AND WALKER BASINS

<u>COST ELEMENT</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
Salaries	\$ 32,759	\$171,418	\$185,131
Fringe	3,603	18,856	20,364
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Operating	94,865	229,221	240,682
Equipment	<u>0</u>	<u>45,050</u>	<u>10,000</u>
Total Direct	\$133,739	\$475,077	\$467,236
Indirect Costs	<u>24,363</u>	<u>127,484</u>	<u>137,682</u>
Total Estimate	\$158,102	\$602,561	\$604,918
Less: Governor's Budget Recommendation	N/A	\$115,939	\$105,931
 TOTAL REQUIRED	 <u>\$158,102</u>	 <u>\$486,622</u>	 <u>\$498,987</u>

LOWELL V. "Lody" SMITH
State Forester Firewarden



STATE OF NEVADA
DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF FORESTRY
CAPITOL COMPLEX
CARSON CITY, NEVADA 89710

February 18, 1977

AB 279

NEVADA DIVISION OF FORESTRY POSITION ON
AUGMENTING MOISTURE ON WATERSHEDS
VIA CLOUD SEEDING PROCESS

With the continuing drought conditions on the critical watershed lands, we would favor any means available to increase moisture content.

These watersheds face extreme fire conditions that potentially could mean longer term effects if destroyed by fire.

Also some of the vegetation on the normally drier sites face severe stress and possibly death.

We are not experts on the cloud seeding technology, we are merely in favor of the concept of adding needed moisture to these watersheds if possible.

A handwritten signature in cursive script, reading "Lowell V. Smith", written over a horizontal line.

LOWELL V. SMITH
STATE FORESTER FIREWARDEN

RECOMMENDATIONS FOR EMERGENCY CLOUD SEEDING
IN THE SPRING MOUNTAIN REGION - LAS VEGAS

The Spring Mountains, located west of Las Vegas, annually receive up to twice as much precipitation as the surrounding valleys. The mountains are subject to more frequent and intense precipitation events and considerably more snowfall than Las Vegas. Although detailed information is lacking, the Spring Mountains probably experience two peaks in precipitation through the year as does Las Vegas which has both summer and winter maxima.

Summer rainfall occurs when warm, moist, tropical air moves into southern Nevada, allowing scattered thundershowers (convective storms) to develop. Precipitation from these storms can reach cloudburst intensities, producing flashfloods and accelerated soil erosion. Intense rainfall falling on dry soil often does relatively little to recharge groundwater supplies but instead flows rapidly to topographic basins where much of it evaporates.

The Spring Mountains typically experience 12 winter storms between October and May. Some of these are major west-to-east moving Pacific storms, while others develop around low pressure zones centered over the Great Basin. The annual snowfall in the Spring Mountains varies with elevation and ranges from 10 to greater than 80 inches.

Attempts to seed convective (i.e. cumulus type) clouds have produced both increases and decreases in precipitation. At this time, it is not clear under what conditions it is possible to enhance precipitation from convective storms. This uncertainty, coupled with the potential for flashflooding and the relative inefficiency of groundwater recharge for rains from convective storms indicates that it would not be practical to seed such storms over the Spring Mountains at this time. However, a program to investigate the character of summer thundershowers in this region, in order to evaluate both their potential to yield more rainfall and to study any negative aspects of such a project, is recommended.

In contrast, cloud seeding for winter snowpack augmentation appears to have a relatively high degree of success in the mountainous west. In addition, the slow release of water during snowpack melt is an efficient means of recharging groundwater supplies. If airborne seeding is to take place in the Walker and Tahoe Basins to the north, it will generally be possible to use the same aircraft to seed over the Spring Mountains. This would not only be a relatively economical approach, but the aircraft could seed both the Pacific and Great Basin type storms. Thus scientific, economic, and logistic considerations all suggest that an attempt to use weather modification technology for precipitation augmentation in the Las Vegas area should concentrate on airborne seeding of winter storms over the Spring Mountains.

February 23, 1977

MEMORANDUM

TO: Assembly Ways and Means Committee

FROM: Norman Hall, Director, Department
of Conservation and Natural Resources

SUBJECT: Budget

ADMINISTRATIVE OFFICES - Department of Conservation
and Natural Resources - Pg.634-635

The budget for the Director's offices for the Department of Conservation and Natural Resources reflects a continuation of existing programs. No new positions have been requested.

Budget requests reflect increases in the cost of doing business. The additional travel expenses for in-state travel are justified by the increased cost of transportation reflected during the past biennium. It should be noted that Department travel funds are used to reimburse personnel from the various Divisions when they are representing the Department on specific programs. In addition, legal and accounting personnel are traveling more in order to meet their responsibilities.

Nevada Tahoe Regional Planning Agency support. The \$2,500.00 authorized for the Nevada Tahoe Regional Planning Agency program is for the purpose of covering the expenses of the Governor's appointee to that Agency.

The purpose of the Director's office of this Department is to provide supervision to all administrative and technical activities of the Department. This is accomplished through coordinating and providing policy

direction to each of the Division chiefs. Final responsibility, however, rests with the Director. This budget request represents the necessary funding to have the staff and information to monitor divisional operations and formulate policy. It is my intention to maximize the service delivery of our Department to the people it serves. To further this end I request \$6,000 to help fund a management study of our Parks Division. That study's objective would be to analyze the present Park's operations and suggest alternatives for improvement.

STATE ENVIRONMENTAL COMMISSION-Pg. 636-637

The State Environmental Commission is a Division of the Department of Conservation and Natural Resources. The budget calls for one new clerical position in order to meet the demand of increasing meetings and hearings. For the same reason, there is a request for an increase in in-state travel for the Commission members.

TAHOE REGIONAL PLANNING AGENCY - Pg. 646

The budget request is for \$50,000 to support the Bi-State Agency. It is being requested in this Department's budget for allocation to the Bi-State Agency as deemed necessary by Nevada's representatives on the Agency. It has been the practice for Nevada to match the State of

(Tahoe Regional Planning Agency)

California's appropriation on a 1 - 2 basis.

STATE MULTIPLE USE ADVISORY COMMITTEE ON FEDERAL LANDS
Pg. 647

This Committee was revised in the 1975 Session of the Legislature to encompass a diverse variety of land users on public lands. An increase in the Committee's budget has been recommended to allow for speakers knowledgeable on proposed federal legislation or regulation to be reimbursed for participation through contract services.

062

DIVISION OF CONSERVATION DISTRICTS

BUDGET REQUEST

1978 - 1979

The primary responsibility of the State Conservation Commission is to assist the Conservation Districts; other federal, state and local agencies; and the citizenry in planning and implementing the resource management systems required to improve the quality of the resource base and environment.

The Commission, whose members serve without compensation, meet on a quarterly basis. However, because of the number of activities the Commission is directly and/or indirectly involved, it has recently initiated a system whereby working committees are functioning within the Commission.

Implementation of Commission policies are carried out by the Division of Conservation Districts, which until January 1, 1977, was composed of an Administrative Officer and a half-time Senior Clerk-Typist. Currently the Division has 6 employees, four of which are not reflected in the budget because they are funded by the "208" federal planning grant. This grant is scheduled for completion December 31, 1977, at which time the Division will revert back to 1.5 employees. Division offices are located in the Capitol Building Annex.

ACCOMPLISHMENTS

District boundaries were reorganized to provide a closer working relationship with county government and assistance was provided to Districts in updating Long Range Programs and Annual Work Plans. Slide shows also were developed as supplemental material.

A Comprehensive Employment and Training Assistance grant to employ eight personnel for six months was managed by the Commission for Districts.

Workshops were held for District Supervisors to acquaint them with their duties and responsibilities, and to provide them with pertinent information.

Other Division accomplishments during the biennium included:

In cooperation with the Nevada Association of Conservation Service, the Division developed and published a brochure titled "Outdoor Classrooms" which shows how schools can develop and utilize outdoor environmental classrooms. Also, the Division in conjunction with the Nevada Association of Conservation Districts, publishes a bi-monthly newsletter to inform district leaders and others of new developments.

Hosted the Western States Conservation Commissions, Committees and Boards meeting.

164

Developed a Memorandum of Understanding between U.S. Forest Service (USFS), Bureau of Land Management (BLM), Soil Conservation Service (SCS), Nevada Fish and Game and State Conservation Commission to coordinate planning on private and public grazing lands.

Requested and received a grant for \$218,000 from Environmental Protection Services as part of the 208 program to assess and determine the location of the diffuse sources of water pollution in non-designated areas and to develop efficient, practical and economical practices that will abate water pollution. The Commission will be utilizing Conservation Districts and various other local grass roots organizations for input throughout the planning process. The actual planning started on January 2, 1977.

BUDGET STATEMENT

Our budget request, with few exceptions reflects inflationary increases. The exceptions are:

OUT OF STATE TRAVEL

The Division requested \$400, which will allow the Administrator and/or Commission Chairman to attend only 1 or possibly 2 of the 6 meetings per year that directly involves the Commission.

OPERATING EXPENSES

The Division requested \$300 to continue publication of six issues per year of the newsletter entitled "News of Nevada's Conservation Districts".

DUES AND REGISTRATION

The Division requested \$600 to cover Commission and/or staff members dues and registration fees at meetings which many times also includes lodging and meals.

STATE OWNED BUILDING RENT

The Division was sharing extremely crowded office space with another Division in the Department before moving to new quarters. We are requesting \$2,160 per year for adequate space.

EPA PLANNING GRANT

As mentioned previously, the Commission will be receiving approximately \$218,000 under the "208" program. The program is scheduled for completion on December 31, 1977.

200

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF COLORADO RIVER RESOURCES

Remarks on 1977-79 Biennium Budget
Presented February 24, 1977

Corresponding Executive Budget Pages Nos. 644 & 645

Assembly Ways and Means Committee

Mr. Chairman and Committee members, I am Don Paff, the Administrator of the Division of Colorado River Resources.

I have only a few comments supplementing the program statement contained on page 645 of the Governor's Executive Budget. No General Fund appropriations are requested. Programs of the Division are funded by an administrative charge collected from power and water contractors plus reimbursements from other accounts, principally the Southern Nevada Water System for salaries and overhead properly allocable to those accounts. Discussions have been held with power contractors and they have been formally notified that the administrative charge will be increased July 1, 1977 from .1 mills to .127 mills per kwh to provide their fair share of additional revenues necessary to fund the 1977-79 budget. This is the first increase imposed since early in 1970.

No additional staffing is requested. During the biennium, preconstruction planning activities will continue for Stage II of the Southern Nevada Water System, and construction should commence. In-house activity on this program has been, and will continue to be, accomplished with the present staff. S.B. 40 has been introduced this session which amends Chapter 482, Statutes of Nevada, 1975 authorizing the construction and financing of Stage II. No General Fund monies are requested for this activity.

The Division's biennium budget and my remarks today do not address any changes that might affect the Division as a result of S.B. 153, the bill that has been introduced reorganizing the Department of Conservation and Natural Resources and its respective divisions.

I would be pleased to answer any questions you may have.

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF STATE LANDS - By Addison A. Millard, Administrator
101-4173

January 25, 1977

The Division of State Lands includes the offices of the Deputy State Land Registrar and the State Land Use Planning Agency.

The Deputy State Land Registrar is responsible for township plats; one of a kind historic documents; recording state leases; and the microfilming of old records. Currently an inventory of all State agency owned parcels of land, as well as those under general ownership in the name of Nevada is underway. Inventories for the Divisions of Forestry and Parks have been completed. An updated listing for Buildings and Grounds ownership is being compiled with the other State agencies to follow.

The Deputy State Land Registrar also is engaged in confirming individual titles and survey descriptions of the remaining school lands within Nevada. There are 2,976.55 acres of several land grants remaining in State ownership for the benefit of schools in Nevada. Exact survey and descriptions are being clarified by personal visits to County Assessors and Recorders. A microfilming update using color microfilm is being investigated, because the original microfilming of the township plats, etc., did not pick up the color coding. Thus to ensure accurate documentation and maintenance of these records for the future, a trial run using color film will be tried.

The two planners in the State Land Use Planning Agency have been heavily involved in the White Pine County Resource Study and Review. Substantial time also has been given to the report, study and necessary research on the Walker River Basin as a potential area of critical environmental concern. This has involved meetings with the State Land Use Planning Advisory Council; the Technical Advisory Committee; several State and Federal Agencies; and engineering consultants, as well as planning for a meeting to be held in Hawthorne before February 15. Considerable technical assistance has been provided to local counties in their planning activity. In addition, a great deal of time has been spent in preparation of changes in the subdivision laws which will be introduced in this Session of the Legislature. Our planners have Chaired many meetings of the Committee Studying Nevada's Land Division Laws established by the Legislative Commission. This committee was responsible for recommending revisions to the State subdivision law. Rewriting the subdivision law is very important and the staff members of this office

have played a very key role in assisting in these responsibilities.

Of considerable interest is the daily volume of telephone calls and mail being received concerning the availability of State land for sale or lease, and oil, mineral and geothermal activity. Data received regarding the new BLM Organic Act is being reviewed and analyzed. The Division is very interested in the procedures and rules forthcoming from the Department of the Interior.

Equipment

The Plotting Calculator will be utilized to plot State owned and selected parcels of land. All lands titled to the several State agencies will be programmed into the calculator. As time progresses the memory system will contain an up-to-date inventory of State ownership. The present inventory of agency ownership will be programmed when all legal descriptions and related data are confirmed with Agency Heads and County Assessors.

The Plotting Calculator is the most feasible type of land recording equipment as it relates to the minimum staff of the Land Office. A number of investigations regarding several types of equipment, leasing of time, combined systems with purchase and lease of time available have been pursued. The initial \$9,000 cost with a two man staff indicates the most efficient plan.

DIVISION OF FORESTRY

LEGISLATIVE BUDGET SUMMARY - 1977

The Division of Forestry is responsible for the protection and management of some nine million acres of State and privately owned forest and watershed land.

Forestry conservation programs are underway on four million of the nine million acres, which includes all or portions of six counties. The real value assessment is approximately \$547 million. Plans are currently proposed to include Eureka County in this program.

CURRENT PROGRAMS

1. Forest and Watershed Protection - From July 1974 through June 1976, the Division of Forestry worked on 512 fires that burned 5,834 acres. In addition, the Division assisted other agencies on 560 occasions and responded to 855 other emergency incidents such as auto accidents, false alarms, smoke investigations, camp fire checks, etc., for a total of 2,017 emergency trips. In this biennium, increased fire prevention programs will be instituted to reduce man caused fires; compile fire protection studies in counties at their request; and to develop a fuels

management and hazard reduction plan in Division areas that have high potential for disastrous fires. (Mt. Charleston area in southern Nevada, etc.)

2. Rural Community Fire Protection - Through the Federal Rural Community Development Act of 1972, Title IV, 22 communities in Douglas, Lander, Eureka, Nye, Mineral, Pershing, Humboldt, Elko and Lyon Counties received \$27,820 in matching federal funds to upgrade fire protection in 1975.

In 1976, 12 communities in Washoe, Lyon, Nye, Humboldt, and Douglas Counties received \$32,870 in matching federal funds for upgrading of fire protection.

For the coming biennium this program will continue.

3. Cooperative Forest Management - During the biennium several forest management projects such as timber stand improvements; site preparation; tree planting and seeding for erosion control; etc., were completed. A total of 233 landowners received assistance. During the next two years the Division of Forestry plans to assist approximately 350 landowners on the current agency programs.

4. Carson-Walker Resource Conservation and Development - One Forestry Work Plan was developed and the U. S. Forest Service has funded a Forester to do forestry work in the five county area in 1977.
5. Tree Insect and Disease Control - Four areas of significant insect infestation were found, evaluated and monitored during the past biennium. Some control work has been done in two of these areas and all four areas are being monitored closely to ensure a major outbreak does not occur. These four areas are Genoa, Spooners Summit, Washoe Valley and Verdi. 112 private landowners also requested assistance to evaluate insect or disease infested trees. During the next biennium the Division of Forestry will continue to monitor and/or control insect and disease problems in the State.
6. Desert Forestry - The Division has developed a program on Desert and Urban Forestry as authorized by the 1975 Legislature. In 1976 a statewide Desert Forestry committee was appointed by the State Forester. Membership includes the U. S. Forest Service, Bureau of Land Management, Soil Conservation Service, University of Nevada, State Conservation Districts, Fish and Game and State Department of Agriculture. In 1976 Bob Long Assistant State Forester made a trip to Israel to gather facts, and procedures that will be

beneficial to Nevada. The Israeli's lead the world in Desert Forestry procedures.

7. Las Vegas Nursery (Tule Springs) - Development of the Tule Springs Nursery continues after some delays in lease arrangements, water rights, and excessively high bids that had to be rejected. New bid dates for the Utility Building are February 1977 and some time in May for the solar greenhouse. The lath house has been constructed. The Division cooperated with Boulder City in planting over 4,000 trees on City property to start a man made forest on four square miles of city property. Work on endangered species continues to be slow because of the problem of determining what is "endangered". Dr. Mozzingo and the Native Plant Society are cooperating on developing an endangered species list. Large scale thefts of desert plants in southern Nevada is a major concern of the Division. We currently have cases under investigation, but our authority is very limited on federal lands where the majority of the thefts are taking place.
8. Reno Nursery - Accomplishments include selling of 215,430 trees for conservation purposes the last two years. Limited water stress plantings are planned for Washoe Valley Shrub Garden to find new desert species for Nevada.

9. Pinyon-Juniper Utilization Progress Report 1973-76 - An Interagency

Pinyon-Juniper Committee was formed in 1973 to investigate the possibility of utilizing the 11.5 million acres of Pinyon and Juniper in Nevada. A federal grant was funded to assist in the utilization study during 1975-76.

Pinyon and Juniper samples were tested for making particle board, paper products and decorative pillars.

Results were positive for certain levels of particle board and a good quality Kraft paper, but negative as decorative pillars. Coordinating work with B.L.M., U.S.F.S. and private landowners to develop best management practices on Pinyon-Juniper types will enhance income to landowners and provide a labor field in many parts of our state.

A four day chipping project funded by State Department of Community Services provided some harvesting costs and production estimates.

A commercial firewood harvesting program is now operating in the Ely area. (approximately ten cords per day)

A completed program has been developed to evaluate optimum plant location and size, transportation distance and product marketing.

This program is in conjunction with a report on the economic framework for analyzing the feasibility of Pinyon-Juniper utilization. A complete chemical analysis of the Pinyon foliage is currently being done in cooperation with the U. S. Forest Service to determine the quality and quantity of resin available for extraction. Additional work has been done to determine if these trees can be used on a commercial basis for livestock feed and bedding, charcoal, paneling, fuel and novelty items.

Future goals are to stimulate interest in the chemical extraction industry and a major wood fiber using industry for total utilization of the trees.

10. Marlette-Hobart Lake Watershed Plan - The 1975 Legislature authorized the Department of Conservation and Natural Resources to perform a watershed study of Marlette-Hobart Lake which was assigned to the Division for completion.

Results found the watershed relatively stable, but needing coordination and management. Three management alternatives were recommended along with consolidated administration of the property.

NDF TOTAL WORK FORCE

1976-77

	<u>STATE OFFICE</u>	<u>AIR OPERATIONS</u>	<u>WESTERN AREA</u>	<u>NORTHERN AREA</u>	<u>SOUTHERN AREA</u>	<u>WESTERN NURSERY</u>	<u>SOUTHERN NURSERY</u>	<u>TOTAL</u>	<u>PERMANENT PERSONNEL BY SKILLS</u>	
State Permanent	15	3	21	7	2	3	2	53	State Forester	1
County Permanent					3			3	Deputy State Forester	1
Seasonal			12	5	1	1		19	Assistant State Foresters	3
CETA Program			14	2	6			22	Area Foresters	3
Seasonal T.O.P. (With School Districts)			5					5	Fire Management	16
Inmate's Honor Camp Program			24			6		30	Resource Management Service Forestry Nursery	7 5
Inmate, Emergency Fire Fighters			25					25	Mechanics	6
Volunteer Fire Depts.			217	400	10			627	Radio Technician	1
Coop. Fire Districts			55	35				90	Pilots	2
Nevada Youth Training Center				65				65	Air Service Manager	1
TOTALS	<u>15</u>	<u>3</u>	<u>373</u>	<u>514</u>	<u>22</u>	<u>10</u>	<u>2</u>	<u>939</u>	Equipment and Property Officer	1
									Administrative Secretary	1
									Account Clerks	2
									Clerk Typists	<u>3</u>

SUMMARY

Division of Forestry	-	46
Nurseries	-	5
Federal Grants	-	<u>2</u>
		53

TOTAL 53

RECOMMENDATIONS FOR EMERGENCY CLOUD SEEDING EXPERIMENTS

EXECUTIVE SUMMARY

The State of Nevada is now experiencing its second straight year of drought conditions. One possible action which might help to reduce the severity of this problem is the application of weather modification technology to augment winter snowpack and thereby increase the available water supply.

Although in the absence of storms, nothing can be done to increase the water supply from the atmosphere available to Nevada, when mature winter storms do occur, cloud seeding methods can be applied in an attempt to put more snow on the ground. Results from the recently completed Pyramid Pilot Cloud Seeding Project and other snowpack augmentation programs, suggest that increases of 15-25% in snowfall are possible when state of the art seeding techniques are employed.

It is thereby recommended that:

(1) Airborne seeding of the Walker and Tahoe Basins and Spring Mountains be conducted on an operational basis during the remainder of the 1977 winter storm season.

(2) Airborne seeding of the Walker and Tahoe Basins be conducted during the subsequent two winters and that snow samples and rain gauge data be collected during the project period. These data will form the basis for preliminary assessments of the overall effects of seeding in terms of targeting accuracy and seeding efficiency. If the initial seeding trials and in-cloud

investigations in the Spring Mountains region indicate that cloud seeding is a viable technology to apply in order to increase available water, it is recommended that interim financing be provided to cover cloud seeding costs in that region for 1977-78 and 1978-79.

(3) In-cloud measurements be obtained in winter storms in order to determine natural ice crystal concentrations and in-cloud air motions. These measurements are considered an essential part of the program and will provide an opportunity to more accurately determine where and how much seeding material to use and to optimize future seeding efforts. It is further recommended that in-cloud measurements be obtained in convective clouds over the Spring Mountains during the 1977 summer season.

The proposed project has been designed to use facilities and techniques developed by the Desert Research Institute under Federal funding. They are now ready to be applied to the needs of the people of Nevada.

C O S T S U M M A R Y

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Indirect Costs @31%	\$11,272 24,363	\$ 58,985 127,484	163,703 137,682
Total Estimate	\$158,102 \$145,011	\$602,561 \$ 534,062	\$604,918 \$ 530,939
Less: Governor's Budget Recommendation	N/A	\$115,939	\$105,931
 TOTAL REQUIRED	\$158,102 <u>\$145,011</u> <u>81,635</u> \$226,646	\$486,622 <u>\$418,123</u>	\$498,987 <u>\$425,008</u>

YEAR I

CY-1977 Emergency Cloud Seeding Project

- Salaries -

6 MONTHS
1 March - 31 Aug.

G. Linkletter, Project Manager	50% (30% N/C)	\$ 2142
J. Hallett	25%	4845
D. Lamb	20%	2219
W. Kocmond	10%	1744
J. Telford	20%	3576
J. Warburton	25%	N/C
G. Keyser	1 mo. @ 50%	738
H. Klieforth	25%	3213
M. Owens	3 mo. @ 50%	2270
P. Wagner	2 mo. @ 60%	2640
L. Franks	15%	1000
Field Technicians (2)	3 mo. @ 25% ea.	2025
R. Sheltra, Mech. Tech.	1 mo. @ 100%	1253
C. Faught, Elec. Tech.	1 mo @ 50%	687
J. Hart, A/C Mech.	3 mo. @ 40%	1940
Secretary	40%	2167

Total Salaries \$ 32,759

Fringe Benefits 11% x 32,759 \$ 3603

Total Salaries and Fringe \$ 36,362

Indirect Cost: 31% x \$ 36,362 \$ 11,272

- Operating Expenses -

Aircraft Operations

- Seeding aircraft and DRZ research aircraft \$66,950

Field Program

22,540

Ice Crystal Program

1,175

Communications

600

Shop Time 200 hrs @ \$15/hr.

3000

Graphics 40 hrs. @ 15/hr.

600

Travel

2512

Total Operating \$97,377

- Equipment -

\$ 0

Total 1977

\$ 145,011

YEAR 2

1977-1978

-Salaries-

G. Linkletter, Proj. Manager	12 mo. - 50%	\$ 11,340
J. Nallett	10.5 mo. - 15%	5,387
D. Lamb	10.5 mo. - 50%	10,277
W. Koehmond	10.5 mo. - 10%	3,232
J. Telford	10.5 mo. - 20%	7,182
J. Warburton	12 mo. - 25%	10,044
H. Klieforth	10.5 mo. - 70%	16,670
M. Owens	9 mo. - 50%	7,209
P. Wagner	12 mo - 40%	11,405
L. Young	12 mo. - 75%	18,711
Field Technicians (2)	12 mo. - 100%	34,992
R. Sheltra	1 mo. - 100%	1,353
C. Fought	1 mo. - 50%	742
J. Hart	6 mo. - 100%	10,478
E. Reinhardt	12 mo. - 100%	13,500
Data Assistant	12, mo. - 50%	4,800
Secretary	10.5 mo. -	4096

Total Salaries \$ 171,418

Fringe \$ 18,856

Total Salaries and Fringe \$ 190,274

Indirect Costs \$ 58,985

- Operating Expenses -

Aircraft Operations	
- Seeding aircraft and DRR research aircraft	\$ 152,781
Field Program	64,140
Ice Crystal Program	1,500
Travel	10,532
Eq. Communications	1,200
Shop Time 500 hrs @ \$16/hr.	8,000
Graphics 100 hrs. @ \$16/hr	1,600
	<u>\$ 239,753</u>
Total Operating	

- Equipment -

Rain gauges w/ recorders 20 @ \$1000 ea.	\$ 20,000
PDM Drop-Size Spectrometer	12,000
Data Acquisition System	<u>13,000</u>

Total Equipment 45,000

Total 1977-1978

\$ 534,062
~~488,123~~

Less Governor's Recommended Budget

\$ 115,939

805 TOTAL REQUIRED

\$ 418,123

YEAR 3

1978-1979

Salaries

\$ 185,131

Fringe

20,364

Travel

11,059

Operating

240,682

Equipment

10,000

Total Direct \$ 467,236

Indirect Costs (@ 31% of salaries + fringe) \$ 63,703

Total Estimate \$ 530,939

Less Governor's Recommended Budget

\$ 105,931

TOTAL REQUIRED

\$ 425,008

and Seeding - Spr Mountains - 1977

Salaries -

B. Linkletter, Prop Manager		\$	N/C
T. Hallett	1 mo. @ 100%		3167
J. Telford	1 mo. @ 100%		3167
D. Lamb	3 mo. @ 100%		3625
P. Wagner	1 mo @ 100%		2200
J. Hart	1 mo @ 100%		1617
Field Technician	3 mo. @ 25%		1013
Secretary			<u>N/C</u>

Total Salaries \$ 14,789

Fringe Benefits 11% of 14,789 = 1,627

Total Salaries and Fringe \$ 16,416

Operating -

Aircraft Operations seeding, etc		\$	57,600
Field Program			6,620
Communications			800
Travel			<u>1,110</u>

Total Operating \$ 60,130

Indirect Cost (31% of salaries and fringes) \$ 5089

\$ 81,635