

ASSEMBLY ENVIRONMENT & PUBLIC RESOURCES COMMITTEE

MINUTES

MEMBERS PRESENT: Chairman Bremner, Messrs Price, Coulter, Jeffrey, Weise, Heaney, Chaney, Jacobsen, and Banner;

MEMBERS ABSENT: None

GUESTS: Ed Sutherland, Ryan Advertising, LA., Fred Wright, Fish and Game; Bill Parsons, " " " Glen Griffith, " " "; Jerry Smith, Ryan Advertising; David Hagen, U.S. Brewers; Sue Morrow, press;

DATE: MONDAY, MAY 5, 1975 William Wilkins, Sun Outdoor Advertising; Chas. A. Robison, Car Displays, Inc., LV., Jack Cobb, Don Rey Advertising; Mike Marfisi, McCullough; Joe Midmore; H. L. Rosse, Bureau Environmental Health; Daisy Talvitie, League of Women Voters; M. Douglas Miller, private property owners; Robert Luck, Sunset Outdoor Advertising; Roland Westergard, State Engineer; Virgil Getto, Assemblyman; Don Mello, Assemblyman; Don Crosby, Dep. State Highway Engineer; Mr. Young, " " " " Office; Walt Martini; John Vergiels, Assemblyman

Chairman Bremner called the meeting to order at 4:35 p.m. He announced the first order of business to be AB 749, extending control of outdoor advertising to nonurban signs beyond the previous 660 foot distance from the right-of-way of certain highways and provides for their removal. Mr. Ed Sutherland of Ryan Outdoor Advertising explained that this bill was substantially compliance legislation to the Federal Highway bill passed in 1974. His suggested amendment regarding compensation for the removal of signs is attached as Exhibit "A". He stated that this language in his amendment appears in the Federal regulation and by inadvertance was left out by the bill drafter. 75% of the cost of signs to be removed is paid by the Federal government and 25% by the State. This applies to the removal of prohibited signs and devices of which there are very few.

Mr. Heaney asked Mr. Sutherland if he was speaking for all the outdoor sign businesses. He answered in the affirmative

Mr. Don Crosby, State Highway Engineer, stated that this bill was

ASSEMBLY ENVIRONMENT & PUBLIC RESOURCES COMMITTEE MINUTES - page two

MONDAY, MAY 5, 1975

sponsored by the Highway Department to comply with the Federal Highway Act; that there is a penalty of 10% of 4.3 million dollars if the State does not comply. (Mr. Crosby's remarks are attached as Exhibit "B"). Mr. Young, also of the Highway Department stated that he has no objections to the proposed amendment. To Mr. Price's questions, Mr. Crosby stated that only two signs in the State would be affected, Pop's Oasis in Southern Nevada at Jean and Harvey's Wagon Wheel on highway 50. They are known as "landmark" signs. However, it is possible in the future that more signs would become outlawed outside of urban areas.

Mr. M. Douglas Miller stated his opposition to the extension of control beyond 660 feet in nonurban areas because it would be telling private property owners how to use their land. He felt many private citizens strongly opposed this proposed legislation. Mr. Crosby explained to Mr. Heaney that 660 feet was a unit of measurement which agreed with 1/8 of a section. Mr. Young of the State Highway Department explained that the original Federal law was passed in 1965 and has been amended to include zoning and has been tested in court.

Mr. Crosby pointed out that areas already zoned "commercial" would not be affected by this legislation with signs advertising businesses. Mr. Young told the committee that one state had attempted to outlaw billboards and had failed.

Chairman Bremner announced the next order of business to be SB 462 which provides for permanent fish and game licensing system. Mr. Griffith of Fish and Game stated that this bill would enable the Department to pursue a more equitable method of issuing licenses; that the free licenses they issue will be on a calendar basis instead of all being issued at "peak" periods and this will help alleviate the burden placed on the licensing agent. (Mr. Griffith's full statement is attached as Exhibit "C".)

Chairman Bremner announced the next order of business to be SB 463 which provides certain exception to fish hatchery invoice requirement. Mr. Griffith stated that this bill will except certain fish hatcheries from the necessity of issuing documents with every sale of fish which the law presently does not allow. He spoke particularly of a fish hatchery business in Overton.

Chairman Bremner announced the next order of business to be SB 424 which requires certification by division of water resources as to water quantity in subdivisions. Mr. Westergard stated that the bill was not introduced at their request and that he was available for questions. Mr. Rosse of the Bureau of Environmental Health stated that they support the bill; that water resources in Nevada are not capable of supporting all subdivisions. This bill would change the law to provide that the Health Division as well as the State Engineer would check water quantity and would limit subdivision development based on the availability of water. (Mr. Rosse's full statement is

## ASSEMBLY ENVIRONMENT &amp; PUBLIC RESOURCES COMMITTEE MINUTES - page three

MONDAY, MAY 5, 1975

attached as Exhibit "D".) Mr. Heaney asked Mr. Rosse if he could give the committee an example where there has been a problem with subdivisions having been built prior to a determination of water quantity that resulted in the purchaser finding himself with no water. Mr. Rosse stated that this situation has not yet occurred but that in Southern Nevada and Pahrump there are 36,000 subdivided lots, 300 of which are occupied, but that the annual "re-charge" is 12,000 acre feet which will not support 36,000 lots. This doesn't apply to irrigation rights which are already granted.

Mr. Heaney stated that he felt this to be a very necessary piece of legislation and gave an example in Washoe County when he was with the District Attorney's office where 13 homes were built and it was later found that there wasn't sufficient water.

Mr. Weise stated that he doesn't think this is a meritorious piece of legislation and asked how the State Engineer is going to guarantee sufficient water until all the lots are drilled for water. Mr. Westergard stated that under this bill, most subdivision developments will be shut down and that it would be an administrative nightmare because they would have to administer every lot that is sold; that the proposed amendment by Mr. Rosse was too far-reaching and he opposes it from an administrative and water resource standpoint.

Mr. Weise asked Mr. Westergard the procedure for determining water quantity. Mr. Westergard explained that subdivision plans are submitted to his office for review and that generally they compare rights already granted and what will be used under the plan. "If we think water will not be available in future development, we do not approve the plan." He felt that the main difference in this bill is that his office will have to sign on subdivision maps.

Mr. Jeffrey asked Mr. Rosse if this applied to just ground water or water projects. Mr. Rosse answered that it would apply to both. Mr. Jeffrey stated that this is another situation where Las Vegas would have to go through "the whole thing"; that they cannot get permission for water anyway unless there is sufficient water and this would be a duplication. Mr. Westergard stated that water supply facilities must be reviewed by the Health Division and also the PSC.

Mr. Heaney stated that there has to be someone at a State level to make determinations and asked Mr. Westergard how his office ties in to the Division of Environmental Health. Mr. Westergard stated that both his office and the Division of Environmental Health are divisions in separate departments and that there have been no problems of a serious nature; that the only thing he objects to is the rigid criteria for their approval. Mr. Weise pointed out that in larger counties, they had their own health divisions but Mr. Rosse stated that his office still has to sign off the maps.

ASSEMBLY ENVIRONMENT AND PUBLIC RESOURCES COMMITTEE MINUTES - page four

MONDAY, MAY 5, 1975

Daisy Talvitie of the League of Women Voters stated that her organization supports the bill and that she has been following this bill for several years; that it is a large part of our concern for consumers being sold land without sufficient water; that she is still concerned about the certification which is not a warranty of the quantity of water; that the consumer should be aware of this at the time of sale; that certification means more with the signature of the State Engineer.

Chairman Bremner announced the next order of business would be AB 34, the proposed "bottle bill". Mr. Getto stated that his proposed amendment would delete most of the bill but one section and add that no metal beverage container can be sold in the State if part of the container is detachable and would be effective July 1, 1976 or he would agree to July 1, 1977. He explained that a similar amendment was offered to a similar bill last session and that it was killed; that industry at the last session stated that they would correct the situation themselves, but didn't and did not "keep faith". He stated that it was only Coors who had done something about it, but that the rest of the industry did nothing but promise. He felt that it behooves the legislature to pass something this session since this matter has had considerable public support throughout the State. He commended the committee for their resolution asking for a study of solid wastes and that the conservation of natural resources should be of great concern to everyone.

Mr. Chaney asked Mr. Getto how many of these containers were canned in Nevada. Since there are none, Mr. Chaney asked Mr. Getto if he thinks that cans could just be made for Nevada. Mr. Getto stated that this is done in Oregon and that California has pending legislation. Mr. Heaney mentioned that Nevada has already been credited as having passed this amendment in Sunset Magazine.

Mr. Weise asked Mr. Getto why set a date of 1977 when there will be another session of the Legislature and results of the waste study will be considered. "Why water it down to nothing?", he asked. Mr. Getto pointed out that industry cannot gear up in six months and that the same situation will be faced at the next Legislature. "They've been on notice for two years and to date they haven't taken care of it", he stated.

Mr. Heaney stated that he tended to agree with Mr. Getto and that this sort of bill would not be addressing the solid waste problem but the safety factor involved. Mr. Getto explained how beer cans and pull tabs were hazardous to cattle. Mr. Jacobsen asked Mr. Getto if he was willing to amend the bill to ban all bottle tops which he feels as just as hazardous. Mr. Jacobsen stated that he felt it was wrong to impose these conditions on one industry and that we have no direct control because of cans moving in from adja-

ASSEMBLY ENVIRONMENT & PUBLIC RESOURCES COMMITTEE MINUTES - page five  
MONDAY, MAY 5, 1975

cent states. Mr. Getto continued that the industry has been successful in lobbying against any bill effecting them. "If there wasn't a problem, so many people wouldn't be concerned", he continued. When it was suggested that this legislation is "piece-meal", Mr. Getto stated that sometimes this is the only way to legislate.

Mr. Midmore requested more time to get back to his clients since this amendment is almost a new bill. Mr. Getto pointed out that there would be time since the bill has to also go to the Commerce Committee. Mr. Weise agreed that sufficient time has been allowed. Mr. Heaney did not agree that this was almost a new bill because Section 16 makes reference to detachable parts of beverage containers.

Mr. David Hagen stated that a similar bill was heard by the Senate last session; that no promises were made as to when cans would be available; that efforts are being made by the industry but that there are large differences between cans used for beer and those used for soft drinks because of the difference in carbonation; that the new can now being marketed by Coors is not the final product and will be replaced. He continued that the real problem in Nevada is that there are no canners or brewers in the State and that beverages are mostly canned in California. He made reference to California Assembly Bill No. 1037, (see Exhibit "E") which calls for an effective date of 1979 with possible extensions to 1980. He said that California canners will not make special cans for Nevada. This means that we won't be getting any soft drinks into Nevada and will give two brewers, Coors and Anhauser-Busch, will have an "incredible advantage." Mr. Hagen urged that 1977 is too soon for this to become effective; that if the effective date is changed to 1979, we can then see what California does with their bill.

Chairman Bremner called for a five minute recess.

AB 749: Mr. Coulter moved to adopt the amendment; his motion was seconded by Mr. Jeffrey. Voting "aye" were Mr. Bremner, Mr. Coulter, Mr. Heaney, Mr. Banner, Mr. Jacobsen, and Mr. Jeffrey.

Voting "no" was Mr. Weise. The motion passed.

(Mr. Chaney and Mr. Price were out of the room.)

Mr. Jeffrey moved "DO PASS"; <sup>as amended</sup> Mr. Heaney seconded the motion. All members present voted "aye" with the exception of Mr. Weise, who voted "no". (Mr. Chaney was out of the room.) The motion passed.

MONDAY, MAY 5, 1975

SB 462: Mr. Coulter moved "Do Pass"; Mr. Jacobsen seconded the motion. The motion was unanimously approved.

SB 463: Mr. Coulter moved "Do Pass"; Mr. Jeffrey seconded the motion. The motion was unanimously approved.

SB 424: Mr. Weise moved "Do Pass"; Mr. Jacobsen seconded the motion. The motion was unanimously passed.

AB 34: Mr. Jacobsen moved to "Indefinitely Postpone" the bill; Mr. Jeffrey seconded the motion.

Mr. Jacobsen stated that he felt the re-cycling plants in both areas of the state are of great benefit to the young people working in these plants. He agreed that thought should be given to preserving our natural resources.

Mr. Ashworth also spoke of the re-cycling plants in both Reno and Las Vegas; that they are both making money and that if it was not for the Legislature they would not exist. He felt that it was incumbent on the committee to not pass this legislature which would put the re-cycling plants out of business.

Mr. Price stated that he agrees with Mr. Ashworth and also with Mr. Jacobsen, but feels the proposed amendment puts a different light on it. He stated that the 1979 date, being the same as California, would give the industry a four-year leeway on detachable tabs which should give them sufficient time but is still a mandate.

AB 34: Voting on Mr. Jacobsen's motion to "Indefinitely Postpone" the bill: "aye" - Mr. Jacobsen and Mr. Jeffrey. The remainder of the committee voted "no". The motion failed.

AB 34: Mr. Weise moved "Do Pass". The motion died for lack of a second.

AB 34: Mr. Heaney moved to amend the bill to apply to containers having detachable tabs and changing the effective date to January 1, 1979. Mr. Coulter seconded the motion.

Mr. Jacobsen moved to amend the amendment to include glass bottle tops; Mr. Weise seconded the motion.

MONDAY, MAY 5, 1975

Mr. Heaney stated his objection to the amendment to the amendment because he felt it would be impossible for the industry to do this with glass bottle tops though it was possible with metal container tops.

AB 34: Voting on Mr. Jacobsen's amendment to the amendment regarding glass bottle tops: voting "aye" were Messrs Weise and Jacobsen. The balance of the committee voted "no". The motion failed.

AB 34: Mr. Weise moved to amend the amendment by changing the effective date to July 1, 1979. Mr. Jacobsen seconded the motion. The motion was unanimously passed.

Voting to adopt the amended amendment changing the effective date to July 1, 1979: voting "no" were Messrs Jacobsen, Weise and Jeffrey. The balance of the committee voted "aye". The motion was passed.

AB 34: Mr. Heaney moved "Do Pass" as amended; Mr. Coulter seconded the motion.

Mr. Midmore expressed the industry's request not to be put on notice with a specified time period; that industry would have to consult with the canners. Mr. Weise pointed out that this would give industry a two year lead time if they are really sincere; that four years borders on the ridiculous.

AB 34: Voting on Mr. Heaney's motion to pass as amended: voting "no" were Messrs Jeffrey, Jacobsen and Weise; voting "aye" were Messrs Heaney, Banner, Chaney, Price and Coulter. The motion passed.

AB 556: Mr. Jeffrey moved to "Indefinitely Postpone" the bill; Mr. Banner seconded the motion.

Mr. Weise pointed out the suggested amendments. Mr. Jeffrey and Mr. Banner withdrew their motion and second to the motion.

AB 556: Mr. Weise moved to adopt the amendments as proposed by Mr. Vergiels changing the word "use" to "sale", and adding the word "retail" sale in two places. Mr. Jeffrey seconded the motion.

## ASSEMBLY ENVIRONMENT &amp; PUBLIC RESOURCES COMMITTEE MINUTES - page eight

MONDAY, MAY 5, 1975

Mr. Jacobsen asked if halomethane gas is used in aerosol containers used for starting diesel engines. He was told that it was.

AB 556: Mr. Weise moved to amend the bill by adding "utilizing halomethane gas" on line 19, page 1. Mr. Jeffrey seconded the motion. The motion was unanimously approved.

AB 556: Mr. Weise moved to "Indefinitely Postpone" the bill; Mr. Jacobsen seconded the motion. Voting "aye" were Messrs Weise, Jacobsen and Bremner. The balance of the committee voted "no". The motion failed.

AB 556: Mr. Price moved to amend the bill by adding "halomethane" on line 14 between "gas" and "which". Mr. Coulter seconded the motion. The motion was unanimously passed.

Question was raised again by Mr. Jacobsen as to this product being banned for use in starting diesel engines. Chairman Bremner appointed Mr. Heaney and Mr. Jeffrey to a sub-committee to investigate the question and report back to the Committee on Wednesday.

The meeting was adjourned at 6:45 p.m.

Respectfully submitted,

PHYLLIS BERKSON, Secretary



ASSEMBLY

2-452

AGENDA FOR COMMITTEE ON ENVIRONMENT & PUBLIC RESOURCES

Date Monday, May 5 Time 3:00 p.m. Room 214

Bills or Resolutions  
to be considered

Subject

Counsel  
requested\*

SB 462	Provides for permanent fish and game licensing system;	
SB 463	Provides certain exception to fish hatchery invoice requirement;	
SB 424	Requires certification by Division of Water Resources as to water quality in subdivisions.	

\*Please do not ask for counsel unless necessary.

AGENDA FOR COMMITTEE ON ENVIRONMENT & PUBLIC RESOURCES

Date \_\_\_\_\_ Time \_\_\_\_\_ Room \_\_\_\_\_

Bills or Resolutions  
to be considered

Subject

Counsel  
requested\*

SB <sup>462</sup>~~426~~

Provides for permanent fish and game  
licensing system;

SB 463

Provides certain exception to fish  
hatchery invoice requirement;

SB 424

Requires certification by Division  
of Water Resources as to water  
quality in subdivisions;

AB 749

An act relating to highway beautifi=  
cation; providing greater control  
over outdoor advertising signs by  
banning, in nonurban areas, signs  
beyond the previous 600-foot dis-  
tance from the right-of-way of certain  
highways, etc.

\*Please do not ask for counsel unless necessary.

HEARINGS PENDING

Date \_\_\_\_\_ Time \_\_\_\_\_ Room \_\_\_\_\_  
Subject \_\_\_\_\_

Date \_\_\_\_\_ Time \_\_\_\_\_ Room \_\_\_\_\_  
Subject \_\_\_\_\_

2-462

410.350 Removal of prohibited signs, devices: Compensation to owners of signs, real property.

1. Just compensation shall be paid upon the removal of any outdoor advertising sign, display or device *lawfully erected and maintained under State law* and removed in accordance with the requirements of NRS 410.340.

~~2. Such compensation shall be paid for the following:~~

(a) The taking from the owner of such sign, display or device of all right, title, leasehold and interest in and to such sign, display or device; and

(b) The taking from the owner of the real property on which the sign, display or device is located of the right to erect and maintain such existing signs, displays and devices.

3. Such compensation shall be paid by the state from the state highway fund, if a proportionate part of such compensation is reimbursable from federal funds in accordance with 23 U.S.C. § 131.

(Added to NRS by 1971, 1328)

RYAN "Jumbo Bill boards"

A. B. 749  
Statutory Changes to Existing Outdoor Advertising Regulations

A. B. 749 embodies statutory revisions required to implement beautification program changes pursuant to the 1975 Highway Act.

Basically, Federal Legislation extended the existing 660 foot control zone adjacent to interstate and primary highways outside of urban areas to include all signs which are visible and intended to be read from the controlled roadway. All areas beyond the previously existing 660 control zone and outside of urban areas are deemed to be non-conforming to prevent proliferation of "Jumbo" billboards. Although not yet a problem in Nevada, the potential for construction of Jumbo billboards will increase as currently existing non-conforming areas are cleared of advertising signs resulting in greater demand for rural advertising.

In all controlled areas, the Federal Legislation allows us to delete our existing controls from signs which were obviously placed to be viewed from non-controlled routes. Our proposed statutory amendments allow this discretion at the State level.

We have added the exact definition of an urban area as presented in the Federal Regulations. This was done to insure uniformity among the various States.

We have also added a provision for deleting controls on certain landmarked signs to allow their preservation rather than force removal as previous statutes would have done.

All legally erected and maintained signs that become non-conforming under revised statutes will be eligible for purchase and removal subject to continuation of their legal maintenance under terms of our existing program.

STATEMENT BEFORE  
the  
ASSEMBLY COMMITTEE ON ENVIRONMENT AND PUBLIC RESOURCES  
Relative to S.B. 462 by Nevada Department of Fish and Game

May 5, 1975

Mr. Chairman, S.B. 462, as amended, does three things, (1) it shortens the required statement on the license document, (2) provides permissive language enabling the Commission to consider establishing a licensing system, possibly patterned after our present boat registration system, and (3) provides for special handling of licenses issued without payment of a fee.

In regard to reducing the verbage this is recommended as the license document is overcrowded with required and necessary entries plus 21 classes of licenses. Very simply, we need the space.

To further expand on the permissive language for a system, one possibility is to issue licenses based upon an application and mail the next year's license to the license holder. The individual would have the license validated at a local license agent by paying the fee for the class of license for which he was eligible.

There are a number of possibilities that have been and will continue to be explored. There is concern over the license agents' ability to handle the 21 license classes we now have plus all the other requirements and there is concern over the number of nonresidents illegally obtaining resident licenses. Some computer licensing system may improve these areas.

Due to the introduction of A.B. 552 which provides free hunting and fishing licenses to disabled veterans, coupled with the long standing free Indian license, paragraph 4 was added.

Statement relative to S.B. 462  
Page 2

2-465

The purpose of this addition is to permit these licenses to be issued upon application to the department accompanied by necessary proof of eligibility. They could be valid during a calendar year thereby removing action on these licenses out of the July/October peak and possibly for disabled veterans make the license valid for more than one year. Also we possibly would automatically reissue the license providing the licensee still resided in the state, and had notified us of any change of address. This approach provides a service to the licensee and removes these licenses from the normal license agent process. Indian representatives have expressed concern over non-Indians claiming a right to a free Indian license thereby jeopardizing their present privilege and we feel they would be receptive to a practical approach to tightening the issuance. We also owe it to those paying the regular fee that reasonable care is taken in awarding a free license. A total of 2,810 Indian licenses were issued in 1974.

We have no estimate of the number of servicemen who entered service as a Nevada resident and met the test of disability specified in A.B. 552. We do know there are very few in Nevada who would be eligible.

TESTIMONY OF H. L. ROSSE re SB 424:

My name is H. L. Rosse. I live at 202 Mary Street, Carson City, and am employed by the Department of Human Resources, Environmental Protection Section, as a public health engineer.

I am testifying in support of Senate Bill 424. The intensity of subdivision development in areas of the State has reached a point where the available source of water does not have the capability to meet the demands of domestic use, irrigation and commercial use.

The present statutes require the Health Division to approve each subdivision relative to sewage disposal, water pollution, water quality, and, subject to the State Engineer's review, water quantity.

SB 424 is a proposal to change the appropriate statutes so that the Health Division looks at the water supply facilities and places the responsibility for the approval for water quantity with the State Engineer.

While SB 424 does this, an important consideration has been omitted. That consideration concerns a limitation of development based on the amount of available water. The addition provided to you will provide this limitation.

The Health Division reviews of subdivision development for the past four years has pointed out that there are many areas where development has reached such intensity that when build-out occurs water will be very short or none will be available. When a subdivision is approved, the State is certifying to the subdivider and the lot purchaser that water is available to support the development's demands with no time limit or qualifications, as it should be. If development is not limited to the amount of available water, I am concerned that the State by certifying water quantity, is liable to provide water which is not readily available, or perhaps to purchase those lots which cannot be provided water.

Present water resource policies approve water quantity for proposed subdivisions with the qualifications that development on community water systems have 5 to 7 years to prove beneficial use. This means that for any subdivision that is not built-out (a house occupied on every lot) will lose that unused water right, leaving the individuals that have not built without water from the community system.

Because private domestic wells are exempted by statute from control by water resources these wells are not protected by that office from over appropriations or considered when a water quantity review is made.

While it may not be important to guarantee water for agricultural development, since irrigation could be halted if necessary and would not affect great numbers of people, it is for domestic use. If the state approves water quantity for domestic use in a subdivision, the State will be in a very libelous position to halt the use for domestic

2-

purposes with the number of people involved. Those people purchasing lots for retirement may not have the funds to seek a legal recourse.

Without the limitations suggested and with the disclaimer such as that beginning in line 19, page 2, which indicates that approval is no warranty that water will be available, there is really no purpose for the water quantity review. If it is not the purpose of this state to assure there is water we shouldn't waste everyone's time.

If the water is not available the subdivision should not be approved. Local governments depend on these reviews to be accurate because they do not have the expertise. They have expressed concern about water quantity but have been unable to deny development for that reason, when water resources qualifications are unknown to them.

Again I am in support of SB 424 withor without the proposed suggestion.



Addition to water quantity review sections of S.B. 424

THE DIVISION OF WATER RESOURCES OF THE STATE DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES, SHOWING THAT THE FINAL MAP IS APPROVED CONCERNING WATER QUANTITY. THE DIVISION OF WATER RESOURCES SHALL DETERMINE IF THERE IS UNAPPROPRIATED WATER IN THE SOURCE IN THE HYDROGRAPHIC BASIN AND/OR SUBBASIN OR AREA AFFECTED AND MAY APPROVE THE FINAL MAP IF SUCH DETERMINATION IS AFFIRMATIVE WHILE TAKING INTO ACCOUNT PERMITS AND PENDING APPLICATIONS. THE DIVISION OF WATER RESOURCES SHALL ALSO DETERMINE THE AMOUNT OF WATER REQUIRED BY EXISTING RECORDED SUBDIVIDED LOTS INCLUDING THOSE INTENDED TO BE SERVED BY INDIVIDUAL DOMESTIC WELLS AND CONSIDER THIS AMOUNT OF WATER IN THE DETERMINATION OF WHETHER OR NOT THERE IS UNAPPROPRIATED WATER IN THE SOURCE. INTERBASIN TRANSFERS MAY BE CONSIDERED IN DETERMINING AVAILABILITY OF UNAPPROPRIATED WATERS.

---

While S.B. 424 does this, an important consideration has been omitted. That consideration concerns a limitation ~~of~~ of development based on the amount of available water. The addition provided to you will provide this limitation.

THE HEALTH DIVISION REVIEWS OF SUBDIVISION DEVELOPMENT FOR THE PAST 4 YEARS HAS POINTED OUT THAT THERE ARE MANY AREAS WHERE DEVELOPMENT HAS REACHED SUCH INTENSITY THAT WHEN BUILD OUT OCCURS WATER WILL BE VERY SHORT OR NONE WILL BE AVAILABLE. WHEN A SUBDIVISION IS APPROVED, THE STATE IS CERTIFYING TO THE SUBDIVIDER AND THE LOT PURCHASER THAT WATER IS AVAILABLE TO SUPPORT THE DEVELOPMENTS DEMANDS WITH NO TIME LIMIT OR QUALIFICATIONS, AS IT SHOULD BE. IF DEVELOPMENT IS NOT LIMITED TO THE AMOUNT OF AVAILABLE WATER, I AM CONCERNED THAT THE STATE BY CERTIFYING WATER QUANTITY, IS LIABLE TO PROVIDE WATER WHICH IS NOT READILY AVAILABLE, OR PERHAPS TO PURCHASE THOSE LOTS WHICH CANNOT BE PROVIDED WATER.

Present Water Resource policies ~~are~~ approve water quantity for proposed subdivisions with the qualifications that development on community water systems have 5 to 7 years to prove beneficial use. This means that for any subdivision that is not built-out (a house occupied on every lot) will lose that unused water right, leaving the individuals that have not built without water from the community system. ~~If they establish wells for water~~

2-470

AMENDED IN ASSEMBLY APRIL 28, 1975  
 AMENDED IN ASSEMBLY APRIL 9, 1975.

CALIFORNIA LEGISLATURE—1975-76 REGULAR SESSION

**ASSEMBLY BILL**

**No. 1037**

Introduced by Assemblymen Z'berg, Bannai, Berman,  
 Chacon, Egeland, *Garamendi*, Goggin, Hart, Keysor,  
 Montoya, Perino, Rosenthal, Siegler, Sieroty, William  
 Thomas, and Wornum  
 (Coauthors: Senators Dunlap and Rains)

March 5, 1975

REFERRED TO COMMITTEE ON RESOURCES AND LAND USE

An act to add Chapter 3 (commencing with Section 24380) to Division 20 of the Health and Safety Code, relating to containers.

LEGISLATIVE COUNSEL'S DIGEST

AB 1037, as amended, Z'berg (Res. & L.U.). Containers: detachable opening parts.

Under existing law the sale of beverage containers is not regulated according to the method of opening.

This bill would prohibit on and after January 1, ~~1977~~ 1979, the sale or offer for sale, *with specified exceptions*, in this state by any person of any metal beverage container, as defined, which is so designed and constructed that a part of the container is ~~detachable~~ *severable* in opening the container ~~or any glass beverage container with a detachable cap or cover/~~ ing which is constructed in such a way that it newly exposes a sharp metal edge when opened.

This bill would make any person who violates the prohibi-

tion guilty of an infraction.

*This bill would require each in-state manufacturer of metal beverage containers, and permits out-of-state manufacturers, to file reports with the Secretary of the State Resources Agency at specified times, containing specified information regarding the conversion of production from flip-top containers, as defined, to nonflip-top containers, as defined. The bill would also require the secretary to make public disclosure of the reports received.*

*This bill would permit the secretary to grant extensions of permission to manufacturers, upon request by July 1, 1978, to sell flip-top containers for a total of not more than one year after January 1, 1979, if the secretary determines that the manufacturer has complied with the reporting requirements, has made good faith efforts to comply with the act, and that the manufacturer will suffer severe economic hardship as a direct result of the required conversion. If an extension is granted, the secretary may require progress reports from the manufacturer regarding conversion.*

*This bill would provide that the subsequent resale of flip-top containers sold by a manufacturer granted an extension to sell such containers shall not be a violation of the act.*

*This bill would require the secretary, prior to making a decision, to conduct hearings upon requests for extension at which members of the public and manufacturers may be heard and would require the secretary to receive evidence and make findings of fact, and to cause public notification of the time and place of such hearings at least 30 days prior to each hearing.*

*This bill would permit a manufacturer to seek judicial review of the decision of the secretary upon any request for an extension. The bill would provide that, notwithstanding any other remedies available at law, any member of the public has standing to bring an action to inquire into the validity of a decision of the secretary on the grounds of the abuse of discretion where the findings are unsupported by the evidence.*

*This bill would provide that notwithstanding Section 2231 of the Revenue and Taxation Code there shall be no reimbursement pursuant to that section nor shall there be any appropriation made by this bill for a specified reason.*

Vote: majority. Appropriation: no. Fiscal committee: no. yes. State-mandated local program: no state funding.

*The people of the State of California do enact as follows:*

1 SECTION 1. Chapter 3 (commencing with Section  
2 24380) is added to Division 20 of the Health and Safety  
3 Code, to read:

4  
5 CHAPTER 3. BEVERAGE CONTAINERS

6  
7 24380. As used in this chapter, unless the context  
8 requires otherwise:

9 (a) "Beverage" means beer or other malt beverages  
10 and mineral waters, soda water and similar carbonated  
11 soft drinks in liquid form and intended for human  
12 consumption.

13 (b) "Beverage container" means the individual,  
14 separate, sealed glass, metal or plastic bottle, can, jar or  
15 carton containing a beverage.

16 (c) "Flip-top container" means a metal beverage  
17 container so designed and constructed that a part of the  
18 container is severable in opening the containers.

19 (d) "In this state" means within the exterior limits  
20 of the State of California and includes all territory within  
21 these limits owned by or ceded to the United States of  
22 America.

23 (e) "Nonflip-top container" means a metal beverage  
24 container so designed and constructed that no part of the  
25 container is severable in opening the container.

26 24381. On and after January 1, 1977 1979, no person  
27 shall sell or offer for sale in this state any metal beverage  
28 container so designed and constructed that a part of the  
29 container is detachable in opening the container or any  
30 glass beverage container with a detachable cap or  
31 covering which is constructed in such a way that it newly  
32 exposes a sharp metal edge when opened. container is  
33 severable in opening the container. Nothing in this  
34 section shall prohibit the sale in California of such  
35 containers for shipment out of state.

1 ~~24382~~ Any person who violates the provisions of this  
2 chapter section is guilty of an infraction.

3 24382. Each in-state manufacturer of metal beverage  
4 containers shall submit a report to the Secretary of the  
5 State Resources Agency on January 1 of each of the  
6 following years: 1977, 1978, and 1979. Out-of-state  
7 manufacturers may also submit reports by the same dates  
8 as in-state manufacturers. Such reports shall contain, but  
9 shall not be limited to, the following information:

10 (a) The percentage of the total production of metal  
11 beverage containers made by the manufacturer in the  
12 previous calendar year which were nonflip-top  
13 containers.

14 (b) The percentage of production of metal beverage  
15 containers the manufacturer shifted from flip-top  
16 containers to nonflip-top containers in the previous  
17 calendar year.

18 (c) The projected date when all production of metal  
19 beverage containers by the manufacturer will be  
20 nonflip-top containers.

21 (d) A general statement of the procedures the  
22 manufacturer is employing to effect the changeover to  
23 production of only nonflip-top containers and specific  
24 economic information regarding the manufacturer's  
25 planned investment in conversion to new equipment and  
26 techniques to effect the changeover to production of only  
27 nonflip-top containers.

28 The secretary shall make public disclosure of all such  
29 reports received.

30 There shall be no penalty for failure to file such reports  
31 other than provided in Section 24383.

32 24383. The Secretary of the State Resources Agency  
33 may extend permission to manufacturers to sell flip-top  
34 containers for one or more periods of time for a total  
35 period of not more than one year after January 1, 1979.  
36 The subsequent resale of these flip-top containers by  
37 other persons at wholesale or retail, empty or filled with  
38 beverages, at any time subsequent to January 1, 1979,  
39 shall not be a violation of Section 24381.

40 In order to be eligible for such an extension of

1 permission to sell flip-top containers after January 1, 1979,  
2 a manufacturer must file a request for extension by July  
3 1, 1978, with the Secretary of the State Resources Agency  
4 and must be in compliance with the reporting  
5 requirements of Section 24382.

6 The Secretary of the State Resources Agency shall  
7 conduct hearings upon the requests for extension prior to  
8 making decisions, at which members of the public and  
9 manufacturers may be heard, and shall receive evidence  
10 and make findings of fact. The secretary shall cause  
11 public notification of the time and place of such hearing  
12 30 days prior to each hearing.

13 In order to grant such an extension of permission to sell  
14 flip-top containers after January 1, 1979, the Secretary of  
15 the State Resources Agency must make a determination  
16 that the manufacturer requesting the extension has made  
17 good faith efforts to comply with the act, but is unable to  
18 meet the time requirement for conversion, and that the  
19 manufacturer will suffer severe economic hardship as a  
20 direct result of the requirements of conversion.

21 If an extension is granted, the Secretary of the State  
22 Resources Agency may require reports as often as he  
23 deems necessary, indicating the progress of the  
24 manufacturer toward compliance.

25 24384. There shall be no administrative appeal of the  
26 secretary's decision regarding a request for an extension.  
27 Judicial review of the decision of the Secretary of the  
28 State Resources Agency on any request for an extension  
29 may be made by the manufacturer. In addition, any  
30 member of the public, without damages, at his own  
31 expense, has standing to bring an action for the purpose  
32 of inquiring into the validity of a decision of the secretary  
33 on the grounds of the abuse of discretion where the  
34 findings are unsupported by the evidence. This section  
35 shall not be construed to prohibit the use of any other  
36 remedy available under any other provision of law.

37 SEC. 2. Notwithstanding Section 2231 of the  
38 Revenue and Taxation Code, there shall be no  
39 reimbursement pursuant to that section nor shall there  
40 be any appropriation made by this act because the

2-473

AB 1037

— 6 —

- 1 Legislature recognizes that during any legislative session
- 2 a variety of changes to laws relating to crimes and
- 3 infractions may cause both increased and decreased costs
- 4 to local government entities and school districts which, in
- 5 the aggregate, do not result in significant identifiable cost
- 6 changes.

DEPARTMENT OF FISH AND GAME

Wildlife Investigations Laboratory  
87 Jedsmith Drive  
Sacramento, California 95819



2-

May 2, 1975

Honorable Roger Bremner  
Chairman, Environmental Resources Committee  
Nevada Legislature  
Carson City, Nevada

Roger...

...During a recent discussion of our California deer plan with Keith Henrikson, he mentioned you may be interested in a copy of the preliminary draft.

As you well know, deer management is a very controversial issue in California and undoubtedly will be discussed during your visit to Sacramento.

I am looking forward to meeting you on your trip down.

Sincerely,

*Bill Clark*

Bill Clark  
Wildlife Pathologist

Enclosure

# Memorandum

2-475

To : All Employees  
Department of Fish and Game

Date: April 30, 1975

From : Department of Fish and Game - Director

Subject: Deer Management Plan

Enclosed is your draft copy of the new deer plan. It contains three sections, a synopsis, the statewide plan and the "white paper." This form was recommended by the Department deer plan committee as being the best and simplest way to present the subject. An attempt was made to include only management elements in the statewide plan. Descriptive or background data comprise the "white paper" (The Deer Situation in California - 1975). The plan you will be reviewing is composed of the suggestions made from personnel from all functions and all regions. I hope in reading the plan that you will recognize your contribution.

You are receiving the plan before it is released to other agencies or the public. Provisions are being made by the regions to discuss the plan within the regions. I hope that you will make every effort to participate in the discussion process. You will be contacted by your region soon regarding a meeting to discuss the plan.

Copies of the plan and background information will be sent to sister agencies (U.S. Forest Service, California Division of Forestry, Bureau of Land Management and National Park Service), sportsmen's groups and other interested organizations. Meetings will be scheduled in each region to solicit input from the public.

Please bear in mind that the most important part of the planning effort is yet to be undertaken. This is the development of the individual unit and herd plans. Development of herd plans is scheduled for the next two-year period. Hopefully you will contribute to this endeavor also.

You will note that the "statewide" plan calls for an annual review of the deer program. This is an important part of the new approach to deer management and gives you the opportunity to provide frequent input into the deer program on a continuing basis.

Please accept my thanks for your participation in the planning effort. I look forward to your continued interest and support of the Department's deer program.

*EC. Fullerton*

Director



SYNOPSIS  
OF  
CALIFORNIA DEER MANAGEMENT PLAN

During the decade from 1965 to 1975, deer numbers in California declined sharply. Although a number of elements may have contributed to this decline --- including such things as highway mortality, illegal and legal kills, losses to predatory animals and factors unknown --- recent studies have indicated that the primary cause of this decline has been substantial decreases in both the quantity and quality of habitat available for deer. Areas suitable for deer are becoming fewer and smaller, and many of those that remain are deteriorating in quality. Consequently many deer are poorly nourished and the rate of fawn survival is quite low.

In many areas loss of habitat resulting from construction of subdivisions, highways and reservoirs is permanent. In other areas the decrease in the quality of the habitat --- the capability of providing adequate food and cover --- may be reversed through changes in land use practices. Loss of or reduction in the quality of deer habitat is detrimental to many other wildlife species besides deer. Practices that will benefit deer also will benefit these other species.

To halt the decline in deer numbers, the Department of Fish and Game has developed a plan which is intended to increase deer numbers in the state, maintain healthy deer herds in optimum relationship with their environment, increase the amount of and improve the quality of deer habitat and provide for diversified recreational use of deer in California.

This is a complex undertaking and involves sociological, economic and political issues as well as biological considerations. To achieve its goals, the department's plan places emphasis on these concepts:

--- Each herd or group of deer must be managed as a separate unit because habitat and other important factors affecting deer survival differ from herd to herd.

--- The factors contributing to the decline in deer numbers will be identified and measures implemented to alleviate their effects.

--- Cooperation of public agencies and private landowners will be sought to halt and reverse the loss of deer habitat areas and the deterioration of remaining deer habitat.

--- Provisions will be made for diversified use, both hunting and nonhunting of deer in California.

\*\*\*\*\*

The complete plan and a review of the California deer situation can be obtained from Department of Fish and Game offices.

The deer plan outlines the Department's approach to achieving two principal objectives: 1. To restore and maintain healthy deer herds to the wild state at optimum levels in balance with their environment; and, 2. To provide for high quality, diversified recreational use of deer in California.

The report on "The Deer Situation in California, 1945" explains in considerable detail the factors affecting deer populations, including sociological, political and economic factors as well as biological considerations.

PRELIMINARY DRAFT  
SUBJECT TO REVISION

## CALIFORNIA DEER MANAGEMENT PLAN

2-478

In recent years, 1965-1975, there has been a large decrease in deer numbers in California. Although a number of elements may have contributed to the decline --- including such things as highway mortality, predation, legal and illegal kills, and factors unknown --- recent studies indicate that the primary factor causing this decline is the loss of deer habitat and a substantial reduction in the quality and quantity of habitat available for deer. This has been reflected in poor fawn survival on many deer herds.

The purpose of this plan is to provide methods to identify the causes of poor fawn survival and other reasons for the decrease in deer numbers, to restore deer numbers to optimum levels with respect to available habitat, to provide for a high level of recreational use, both hunting and nonhunting, of deer in California and to benefit other wildlife species associated with deer habitat.

This is a complex undertaking and involves a number of issues. The Department recognizes that in order to achieve these overall goals, it must focus its effort on the separate parts of the problem. Success will depend on many factors ranging from weather to cooperation of land managers. Management programs will be implemented on a local basis reflecting the conditions in the individual deer herds.

## OBJECTIVES --

- I. To restore and maintain healthy deer herds in the wild state at optimum levels in balance with their environment.
- II. To provide for high quality, diversified recreational use of deer in California.

- IV. Improved recreational opportunity for use of deer and other species, both on a hunting and nonhunting basis.
- V. Improved public understanding and appreciation of deer herds and their habitat.

I. Habitat Program

Increase and maintain the quality and quantity of deer habitat on both public and private lands.

A. Public Lands

Through agreements with public land agencies:

- Obtain commitments on achieving deer production;
- Improve forage on migration routes, holding areas and propagation areas;
- Obtain agreements for beneficial uses of prescribed burning;
- Identify areas that can be developed to compensate for habitat losses;
- Develop means of identifying harmful land management activities at earliest stages;
- Increase quality and quantity of habitat through new land use plans;
- Assist in acquisition of deer habitat by agencies through identification of important areas and assistance in land trades.

B. Private Lands

Encourage development and preservation of deer habitat by such actions as the following:

- Developing programs to make deer more valuable to landowners (provide economic incentives for sound deer management);
- Obtaining changes in zoning laws to encourage maintenance of deer habitat;
- Expanding and establishing new extension type services for private landowners to encourage retention of lands as deer habitat;
- Identifying key deer habitat areas and providing incentives for maintaining them as habitat;

- B. Conduct necessary deer habitat studies and investigations.
1. Determine quantity and quality of deer habitat. Identify key habitats: migration routes, delay sites, propagation areas, winter ranges.
  2. Determine possibilities for improving habitat through new methods.
  3. Determine means of protecting key deer areas.
  4. Develop and operate test areas to assess management techniques.
- C. Investigate and determine means of increasing economic incentives for landowners to manage lands for increased deer numbers.
1. Develop program to obtain landowners participation in programs to benefit deer.
  2. Develop legislation necessary to implement program.
- D. Conduct public opinion surveys to determine desires of hunters, nonhunters, general public about deer management programs.

### III. Implementation of Herd Management

Implement deer management programs, using best available biological knowledge, to increase and maintain deer populations in California at optimum levels with available habitat. The goal of this plan will be to increase the state deer population to the 1965 level by 1985. This will be done through programs directed mainly at: (1) Managing deer habitat, and (2) managing deer numbers.

- A. To provide for maximum effective use of all available knowledge and department resources and because the total deer population in California consists of a number of "herds," each occupying a particular area or moving from one area to another, deer management plans will be developed on a "herd" or area basis to provide the maximum potential for management of each herd.

---Although each "herd" plan will be developed to provide for the characteristics of each herd, each plan will conform to an overall state plan that will set goals, criteria and operations methods for local plans.

## UTILIZATION PROGRAM

VI. Develop programs for diversified recreational use of deer. This will include both hunting and nonhunting programs.

A. Hunting programs

- All hunting programs will be based on wildlife management principles intended to reach and maintain optimum deer populations in relation to available habitat.
- Regulations of seasons, open areas, limits, number of hunters and other factors will be considered in the total hunting program.
- Public participation will be encouraged in the development of hunting programs.
- Hunting program will be designed whenever possible to place emphasis on esthetic aspects of hunting experience.
  - .....prevent overcrowding
  - .....discourage road hunting
- Hunting programs will provide for different types of hunter opportunities under suitable circumstances.

B. Nonhunting programs

- Viewing of deer in their natural habitat,
  - .....identify deer viewing areas
  - .....provide information on locations and best times to view deer
  - .....hold guided field trips in suitable areas
  - .....provide information on deer areas closed to hunting and suitable for sightseeing
- Provide informational, interpretive programs for viewers at suitable locations.
- Encourage photography and art programs involving deer.
- Provide information to schools, youth groups, others on deer requirements and viewing areas.

2. Prepare herd management plans for all other herds by December 1977.
  3. Determine staffing and financial levels necessary to fully implement the complete plan. (i.e. manage deer in all areas on a herd basis)  
.....for wildlife management  
.....for law enforcement  
  
(Present estimated to require 12 new positions).
  4. Continue research efforts on a select migratory deer herd (North Kings Herd, Fresno Co.) and demonstration of habitat manipulation of brush fields to improve condition for deer (Grindstone Project - Glenn Co.).
- B. Augmentation of research and information gathering programs
1. Biological information on deer herds
  2. Habitat, quantity and quality
  3. Deer nutrition
  4. Predator control
  5. Other programs
  6. Determine staff and budget levels required to accomplish additional research and information gathering programs. (Presently estimated not to exceed \$50,000 annually)
- C. Create work flow charts or "PERT" charts showing schedule for accomplishing program, and intermediate goals and work objectives.

#### IX. Review

Plans and findings will be reviewed annually. This review will involve all functions at the regional level.

## APPENDIX

## SAMPLE HERD PLAN OUTLINE

Rail Road Flat Deer Herd Management Plan - 1975-1980

## I. Management Objectives

A. Primary Objective:

To increase the Rail Road Flat Deer Herd population 25 percent by 1980.

B. Secondary Objectives:

1. Decrease deer losses from major causes.
2. Correct detrimental range utilization practices.
3. Provide for recreational utilization by hunters and nonhunters.
4. Attain a diversified forest habitat.
5. Decrease the rate of developments that encroach on important deer range.
6. Attain a healthy herd population structure.
7. Develop public confidence and support for plan.

## II. Background Information (presently available)

A. General Information:

Identify and describe the subspecies of deer. Write a brief history of the deer herd, i.e., early and present population densities, hunting success, die-offs, etc. Discuss weather conditions that have influenced deer survival.

B. Description of the Summer, Winter and Intermediate Ranges:

1. Ratio of size between each range.
2. Vegetative dominants and composition in each range.
3. Fawning areas and migration route.
4. Successional condition of vegetation.
5. Map land ownership map.



2-484

3. Encroachments.
  - a. Subdivisions.
  - b. Water projects.
  - c. Highway developments.
  - d. Recreational developments.
  - e. Mining operations.

III. Work Plans to Achieve Objectives

To achieve the above goals and objectives, the following work plans and jobs will be undertaken:

Job 1 - Improve Deer Habitat

1. Carry out a program of prescribed burning of 300 acres of summer and intermediate range on a yearly basis along migration corridors and in key habitat areas (map by year and location).  
Implementation: Cooperative work project with U. S. Forest Service:  
see work schedule.
2. Carry out a program with private landowners, BLM, Division of Forestry, and American Forest Products to slash and burn 500 acres of overgrown or decadent vegetation on the winter range. (map by year and location).  
Implementation: By cooperative agreement with private landowners and land managing agencies.
3. Encourage U. S. Forest Service to establish a policy of "watch and see" with fires above the harvestable timber zone.  
Implementation: Work with Forest Service to include in their unit plans.
4. Identify key deer areas.
5. Trap and mark a total of 200 deer, including installation of 10 radio collars, and monitor marked animals to determine:
  - a. Migration corridors.
  - b. Key wintering and summer areas.
  - c. Key fawning areas.

2. Set priorities on threats to resource and concentrate on those where results can be obtained.
3. Develop land use policies which will include deer habitat as an important resource.

Implementation:

- a. Work with planning groups by providing input of wildlife needs.
- b. Keep interested groups informed of encroachments detrimental to wildlife needs.

Job 5 - Decrease Unwarranted Deer Losses

1. Determine relative impact of mortality from sources such as predation, legal and illegal kill and other factors.
2. Develop programs to reduce losses where necessary and feasible.
  - Increase out of season law enforcement effort.
  - Recommend a specific predator control effort if needed.
  - Adjust hunting program recommendations according to abundance and availability of deer.

Job 6 - Monitor Progress of Herd Management Plan

1. Hunter take (check station data on age and condition, tag count and location data).
2. Range condition and trend data.
3. Forage production and utilization data.
4. Pellet group transects (deer day use).
5. Deer and cattle exclosures.
6. Herd composition counts.
7. Hunter pressure and distribution.
8. Weather data.
9. Quantify illegal kill. Make special enforcement effort to reduce out of season illegal kill.



## THE DEER SITUATION IN CALIFORNIA - 1975

## INTRODUCTION

From 1965 to 1975 deer numbers in California declined dramatically. The decline is still occurring. California is not alone; deer populations in other western states are experiencing the same downward trend.

Deer population fluctuations are not a new phenomenon. Fluctuations have occurred in the past and will occur in the future. However, there is particular concern for the recent decline because it reflects, in part, man's increasing impact on wildland environments.

This report documents the magnitude of the present decline and explains factors that led to that decline.

## PRESENT SITUATION

("How large is the decline?")

Quantitative information documenting the magnitude of the decline is available in data on hunter success, fawn production and survival and measurements of deer use on the range.

The Department's deer tag return analysis indicates that deer populations peaked in the late 1950s and early 1960s--75,000 bucks were reported taken in 1954 and 1960 (Figure 1). There has been a downward trend in tag returns since 1966; the buck take dropped to 23,000 in 1974, the lowest reported since the early 1930s.

The Department makes annual herd composition counts to record the number of fawns produced and the numbers that survive. Since 1965 the ratio of fawns to does has decreased in most California deer herds. During the period of peak populations, good fawn survival gave spring ratios of 60 fawns per 100 does. At present poor

fawn survival results in spring ratios as low as 20 to 30 fawns per 100 does.

Recent studies in the North Kings herd (Fresno County) revealed a 50 percent mortality in fawns from birth to weaning; in some recent years an additional heavy loss of fawns (another 25 percent) occurred during the fall migration and on the winter range (September - December).<sup>1/</sup>

Each year deer use on many herd units is measured by the Department and the U. S. Forest Service. These surveys show a dramatic reduction in deer days of use per acre on many California deer ranges. Examples of this type of documentation are the Yolla Bolly (Glenn County), Rail Road Flat (Calaveras County) and the Interstate (Modoc County) deer range surveys that show a drop in use of more than 70 percent from 1964 to 1973.

Magnitude of Decline

All of the surveys and measurements used show that the present decline in California deer numbers is of a major magnitude. Some herds are at least 70 percent below peak levels that occurred in the 1950s and 1960s.

PRELIMINARY DRAFT  
SUBJECT TO REVISION

HISTORY

What has happened before the decline?"

Early Times (prior to 1900)

From early accounts of explorers, trappers and settlers it appears that deer were never very numerous in pristine times. Much of what is now considered preferred deer range was densely forested and the few deer occurred mostly in the chaparral and oak-woodlands of the foothills of the Sierra and Coast Range Mountains.

Following the discovery of gold in California, however, unrestricted hunting by early Californians and overgrazing of the range by the livestock needed to feed the

<sup>1/</sup> Salwasser, 1974. North Kings deer herd fawn production and survival study. California Dept. Fish and Game, Adm. Rpt. No. 74-4, 78 p.

"49ers," as well as severe drouth, pushed deer populations to a very low level.

By 1900 deer were scarce in California. The present decline is not the first of its kind.

Deer Increase (between 1900-1965)

First, hunting regulations, licenses, and seasons (and later, refuges and other closures) were used in an effort to correct the effects of unrestricted deer harvest. In addition, weather patterns became more favorable for deer. Logging and wildfires opened up much of the forests and shrublands. Logging and fire create and hold vegetation in successional stages providing a mixture of brush, grass and trees beneficial to deer production and survival. With optimum habitat, increased protection and favorable weather patterns the deer populations of California increased rapidly. In fact, many migratory herds, such as those in the Sierra increased to peak numbers only to experience huge die-offs in response to severe winter weather conditions. This pattern of "peak and crash" in Sierra herds occurred between 1930 and 1960. During the same period coastal and southern California deer also experienced periodic die-offs caused by other factors such as disease and parasite problems. By the mid-1960s deer numbers throughout California reached some of the highest levels ever recorded.

The Decline (from 1965 to present)

Three requirements basically determine the well-being of a deer herd. They are food, cover and water. Together they constitute the elements of habitat. After mid-1960 a combination of factors resulted in a reduction of the quantity and quality of deer habitat and the present decline began. Some of the changes in the quality and quantity are subtle and have gone virtually unnoticed. Other changes have been dramatic and very obvious.

The factors most responsible for the decrease in quality of deer ranges are:

(1) adverse weather, (2) increased fire suppression, (3) adverse silvicultural practices, and (4) overutilization of the range by deer and livestock, all of which hastened the succession from nutritious young plants to mature and decadent plants, and replacement of beneficial plants by nonbeneficial plants.

The single factor most responsible for the decrease in quantity of deer ranges is habitat elimination, caused mainly by: (1) residential and recreational subdivisions, (2) silvicultural practices, (3) water impoundments, (4) conversion of deer ranges to agricultural uses, and (5) road construction.

Although the amount of precipitation has increased during the past two years, California and the entire Pacific Northwest has been in an overall drought pattern since 1950, particularly in early fall and late spring periods critical to deer nutrition and growth. Hence, adverse weather, in addition to loss of quality and quantity of habitat, has given rise to poor range conditions and is believed to be the major cause of the present deer decline. Certain other factors such as direct and indirect mortality (illegal kill, highway loss, predation, etc.) although not a major influence on the decline may now be instrumental in holding deer numbers at a low level.

PRELIMINARY DRAFT  
SUBJECT TO REVISION

#### FAWN SURVIVAL AND HABITAT LOSS

("Why is there a decline?")

But what are the specific major factors that have caused the decline? They are (1) poor fawn survival and (2) loss of habitat. Let's look at fawn survival first.

#### What determines fawn survival?

To understand the whole picture on why fawns are not surviving on California ranges, the factors that determine survival must be considered. These are: (1) potential

production (how many fawns will be born), (2) summer mortality (how many will survive birth, nursing and weaning), (3) fall mortality (how many will survive the rigors of fall migration and/or poor fall forage conditions and (4) winter mortality (how many fawns will survive the stress and rigors of winter conditions).

But what contributes to fawn production and survival? First, fawn production depends upon the pre-autumn condition of the doe (that is, the kind of physical condition the doe is in prior to winter), how much winter stress she undergoes and what kind of spring nutrition she gets. A recent study<sup>1/</sup> shows that fawn survival, as well as production, also depends upon the nutrition of the doe, as well as what kind of fawning habitat exists, both in terms of nutrition and adequate cover. The condition of the doe during the last third of her pregnancy and during nursing are particularly critical. After weaning, the nutrition the fawn obtains during the summer is critical to its survival. Predations and "accidental losses" also contribute to fawn mortality. To sum up then--why don't fawns survive? Primarily because of the reduced quality of California deer ranges, both summer and winter ranges of migratory deer, and resident ranges, in the case of nonmigratory herds. Losses from accidental causes and predation are most apt to be a factor when populations are low and habitat conditions unfavorable.

Why are deer range conditions declining?

The major causes of the decline in the quality of California deer ranges are: plant succession, resulting in mature and decadent forage (food) plants or replacement of preferred by non-preferred forage species; and, adverse weather patterns. A recent study in Calaveras County<sup>2/</sup> has shown that 85 to 95 percent of preferred browse (woody forage) plants are either old, dying or dead. The same is true in coastal range counties where the majority of shrublands, or chaparral as it is called in California, consists of dense fields of mature brush. Furthermore old, dying or dead forage plants do not yield the proper nutrition needed by deer. Adverse plant succession (shrubs to trees) that has

<sup>1/</sup> Verme, 1962. Mortality of white-tailed deer fawns in relation to nutrition. Proc. 1st Nat. White-tailed deer disease symp. 1:15-38 p.  
<sup>2/</sup> Browning, et al., 1973. Rail Road Flat deer study. Calif. Dept. Fish & Game, Adm. Rpt. No. 73-1, 49 p.



occurred since logging and fire first opened and improved the deer rangelands has taken place on all deer ranges, both resident ranges, and winter, summer and intermediate ranges of migratory herds.

But what are the reasons for adverse plant or vegetational succession on the deer ranges?

Fire Suppression - Efficient fire control is probably the most significant of all factors causing declining deer range conditions. Many of the forage plants preferred by deer reproduce and grow in response to fire. Prime examples are buckbrush, a preferred winter range plant in coastal and Sierra ranges; snowbrush, a preferred browse on Sierra summer ranges; and chamise, a common browse plant in coast ranges where most deer exist in resident herds. Fire also can open solid stands of cover that provide very little deer food and create the environment for other forage classes like grasses and herbs. Hence, fire is not only helpful in regenerating deer forage plants on the range, but also in providing a diversity of habitat (a mixture of brush, herbs and grasses, open space and dense cover) critical to deer needs. On the other hand it is recognized that in some deer ranges fire can be detrimental for certain plant associations (the Great Basin type for instance).

Silvicultural Practices - Intensive logging in the 1930s, 40s and 50s opened up many forested areas in California and allowed an extensive increase in preferred deer forage plants. However, the successional plants in these logged off areas are now 25 to 35 years old. Hence, many are nutritionally inadequate, old or decadent, or out-of-reach of the deer because of their maturity. In some cases, the areas have returned to dense forest conditions, and second growth conifers have shaded out preferred deer forage plants, partially or altogether.

Most early forms of logging were beneficial to deer. Natural regeneration of the forests was relied on by lumbermen. This usually resulted in the establishment of brush fields as an intermediate forest stage. These brush fields are important deer producers. Present logging practices are not producing the quantity and quality of deer forage that was experienced in the past; hence, only short-term benefits are being realized. Silvicultural practices, such as intensive single-species reforestation, herbicide treatment to reduce noncommercial vegetative competition, and livestock use after logging, preclude any long-term benefits to deer. 2. 493

Overuse by Grazing Animals - Moderate livestock use can retard invading brush species and encourage favorable plant succession to the benefit of deer. However, continued overuse by livestock combined with heavy use by peak deer numbers finally results in general overuse, range deterioration by removal of preferred forage and cover species and a decline in habitat quality. When browse plants are utilized beyond certain "allowable use factors," generally between 40 and 60 percent of the annual growth<sup>1/</sup>, these plants lose vigor, become stunted and decadent and lose their nutritive value. Overuse also results in low, and often in no reproduction of forage plants. In some ranges (Tuolumne Meadows, Mariposa County, and Rail Road Flat in Alpine and Calaveras counties) several species of "preferred" forage plants have become scarce or actually have been eliminated.<sup>2/</sup> This kind of overuse is damaging to forage cover, upland game and other wildlife habitats.

Weather as a Factor - Weather is an important factor in affecting deer numbers in California. Fluctuations normally occur in deer numbers as they do in other mammal populations. Changes in weather patterns, as they affect deer forage production and availability, contribute significantly to such fluctuations.

Weather variations affecting deer include: (1) variations in both total yearly and multi-year precipitation, (2) seasonal distribution of precipitation, (3) minimum and maximum temperatures, (4) depth of snow and (5) number of days between killing

<sup>1/</sup> Dasmann, 1971. If deer are to survive. Wildl. Mgmt. Ins. (Stackpole Books), 128 p.  
<sup>2/</sup> Browning, et al., 1973. Rail Road Flat deer study. Calif. Dept. Fish & Game, Admin. Rpt. No. 73-1, 49 p.

frosts. Generally, any "drought" conditions adversely affect forage conditions. Water tables are lowered; soil moisture is lessened; plant and seedling vigor is affected; leader growth on browse food plant is inhibited; and annual herbaceous plant growth is retarded or nonexistent. In addition, killing frosts retard growth or destroy plants. Deep snows restrict the availability of forage plants which stress deer as they compete for scarce forage on winter ranges. Winter stress has been responsible for significant losses of deer especially the young.

Analysis of past weather data reveals that seasonal distribution (when the precipitation occurs), rather than total amounts of precipitation, is one of the more critical factors affecting range conditions and deer production. Statistical analysis of weather data indicates that deer survival (and hence deer numbers and harvest) directly correlate with the amounts of early fall (September, October and November) and/or late spring and early summer (April, May and June) precipitation. Early fall rains encourage the growth of forage critical to deer as they prepare for the breeding season and overwintering. Late spring and early summer precipitation extends the growth period of annual succulent herbaceous forage which benefits the does while they are pregnant and nursing the fawns after they are born. Spring rains also encourage production of acorns which are very important fall foods on many deer ranges.

When range conditions are optimum and weather patterns favorable, deer populations increase rapidly due to the number of fawns that younger deer produce in addition to those produced by prime does (4 years or older). When range conditions are poor and weather patterns unfavorable the prime does still produce, but the younger animals may bear only a single fawn and the yearlings none. The fawns, if they survive birth, still must struggle to survive weaning. Field studies indicate many fawns do not survive through birth or weaning if the doe's diet is inadequate. Hence the critical nature of fall and spring precipitation is apparent.

Therefore, when favorable weather patterns of early fall and/or early spring and summer rains again occur, the present low deer populations will respond upward in numbers; and, on a predictable basis.

How is deer habitat being lost?

Loss of deer habitat through changes in the nutritional quality of the ranges is not always easy to measure or to observe. However, when habitat is lost to land use changes, the loss is very obvious and easy to measure. Land use changes most commonly responsible for habitat reduction or elimination are: (1) subdivisions, both residential and recreational, (2) water impoundments, (3) agricultural development, (4) range conversion, (5) road construction and (6) silvicultural practices.

Subdivisions - Urban development in the form of subdivisions and scattered small parcel development is taking a large toll of deer habitat statewide. Significant amounts of what once was good deer habitat in southern California (Ventura, Los Angeles, Orange and San Diego counties, for example) are now actually urban communities. In Modoc, Siskiyou and Shasta counties (historically in the top ten in deer harvest), 155,000 acres of deer winter range have been approved for subdivision since 1965. Foothill areas on both sides of the Sacramento-San Joaquin Valley have had extensive subdivisions. In 1972, 2,700 parcels of land were subdivided in Calaveras County alone. Many of these subdivisions are not completed, so their total impact on deer habitat has not yet manifested itself in terms of actual herd reductions. However, when construction is completed and man fully occupies the land there will be further significant drops in deer numbers.

Silvicultural Practices

One of the most serious problems involving deer habitat loss are silvicultural practices detrimental to wildlife. These practices have a continuing impact on deer with a potential of causing a loss of production up to 63,000 deer each year. Adverse practices

include brush-to-tree conversion, removal of oak trees (a vital deer food on many ranges) herbicide spraying to prepare sites for the production of dense stands of conifer trees and brush suppression. Such adverse silvicultural practices reduce production of deer forage by directly eliminating food plants, retarding growth of others and reducing the period of time in plant succession that desirable vegetation is available.

Water Impoundment

There have been approximately 26,800 acres of deer habitat covered by water impoundments in the last decade (1965-1974). Many of these projects have been constructed on key deer foraging and fawning areas. An example is the Trinity River Project in which the habitat supporting an estimated 8,500 deer was lost due to reservoir construction.

Mitigation for this type of loss is generally attempted by setting aside land for deer in immediately adjacent project areas. Unfortunately, suitable land is not usually present in the project areas and deer will not shift use from a near to more distant area, and to date mitigation efforts have been largely unsuccessful.

Agricultural Development

Although some agricultural developments benefit deer, habitat losses generally result from intensified or clear farming and extension of farming into deer ranges. In the last decade 17,000 acres of deer winter range in Siskiyou County alone were converted from preferred forage plants to agricultural crops. Each year more foothill lands are planted to grain which pushes livestock onto prime deer habitat higher up in the woodland-grass and shrublands. Another example is increased vineyard planting in deer ranges which causes further reduction in native deer habitat, and certainly increased depredation problems. Losses to agricultural development obviously will continue.

Range Conversion

In some cases conversion of range vegetation to benefit livestock may benefit deer. In other cases it is detrimental. These projects usually convert shrubs to grass. When the project consists of opening dense brush stands to encourage both the regeneration of browse plants and grass production the practice usually benefits deer. When preferred browse plants are eliminated to encourage only the growth of grass, the practice is generally detrimental to deer. The extent of such loss by range conversion is not documented at present, but the loss is viewed as significant in relation to available deer habitat.

Road Construction

Construction and upgrading of county, state and federal roads, highways and freeways in deer ranges have resulted in the direct elimination of habitat. In addition to taking a toll in deer habitat, road construction results in a loss of deer from road kills.

For example, the realignment and widening of Highway Interstate 80 directly bisected the migration route of the Loyalton-Truckee deer herd in Nevada County. This project is estimated to have reduced this deer herd by 80 percent by creating a barrier across the migration path and which resulted in the actual loss of deer from auto deer collisions and disruption of migration pattern.

Other examples of direct habitat loss and high deer mortality on highways are evident in losses which have occurred on Highway Interstate 5 in Shasta and Siskiyou counties and on Highway 395 in Plumas and Lassen counties.

On national forests in California as of 1970 (U. S. Forest Service 1970) there were 37,350 miles of road. In the next decade due to forest production and management needs, an additional 2,000 to 3,000 miles of roads will be constructed

PRELIMINARY DRAFT  
SUBJECT TO REVISION

annually in national forests in California. This rate of construction projects a corresponding loss of 8,000 to 12,000 acres of deer habitat annually.

Indirect Causes

Land use changes on deer ranges not only cause direct elimination of vital habitat which prevents deer production but also create indirect losses from secondary factors. Disturbance by man's activities and harassment by domestic animals all force deer from their preferred habitats. Disturbance and harassment are particularly significant on winter deer ranges where deer are concentrated and on summer fawning areas, such as mountain meadows. The magnitude of indirect habitat losses has not yet been measured. There may be other factors that are not identified.

OTHER LOSS FACTORS

(What about other direct mortality factors?)

In addition to decreasing quality and quantity of deer habitat that results in poor fawn production and survival, there are other factors which cause a direct loss of deer numbers. These mortality factors are: (1) legal deer kill, (2) illegal deer kill, (3) highway mortality, (4) other accidental losses, (5) depredation permit kills, (6) losses to predators, and (7) death from diseases and parasites.

Do any or all of these mortality factors have a significant effect on the present deer decline in California and the Pacific Northwest?

Hunting

To assess the effect of hunting on deer populations, three things must be considered: (1) How many deer can good habitat produce and support, (2) How many deer are actually harvested, and (3) How many can be taken safely without affecting the basic population?

First, with the potential of each doe raising two fawns per year on good quality range and habitat, a deer herd is capable of a 35 to 45 percent annual increase in numbers. On a deer range stocked to capacity, the annual loss from all causes generally matches the number of deer born into the population; hence, the potential annual "turnover" on good deer ranges is about 40 percent.

Second, less than 10 percent of the total deer population is legally taken during the hunting season, under the bucks-only system. Therefore, nearly 30 percent of the deer population die annually from other causes on a fully stocked range.

Third, on good quality ranges the equivalent of the 40 percent loss from turnover may be taken annually without affecting the basic population. Since less than 10 percent is taken by annual legal buck kill, it is evident that to utilize the turnover loss, some antlerless animals would have to be harvested.

Antlerless hunting is an acceptable deer management concept in many states throughout the nation. Antlerless hunting, then, is a deer management tool that permits removal of excess deer normally lost to causes other than hunting. Removing these excess animals reduces competition for food, protects the range from overuse and improves fawn production and survival.

As a general rule when populations are high sportsmen's acceptance of antlerless hunting is greatest. As populations decline, hunter concern is usually manifest in reduction or elimination of antlerless hunts.

Deer hunting in California has been primarily buck hunting. In 1883 female deer were given protection by the State Legislation. There were no female deer legally taken in California from 1883 until 1949. The deer seasons were set by the



Legislature until 1945. In 1945 the Legislature delegated to the Fish and Game 500  
Commission powers to regulate sport hunting and fishing. 2

In California during the last 70 years we have had an early season in the coastal area in August and September and a late season in the remainder of the State in September and October. The basic limit has been two bucks with at least two points. It was not until the enactment of the deer tag law in 1927 that the Department obtained sound figures on the deer take from tag returns. The first year 19,500 tags were returned. A hunter had to tag a deer at the time it was killed and the tag had to be validated by certain designated officials. The return of deer tags by successful hunters increased during the period from 1927 up through 1954 when the record buck take of 75,602 was recorded. From 1955 to 1966 return of tags fluctuated between 55,000 and 70,000. Since 1966 the trend has been downward. In 1974 the return was 23,000, the lowest reported since the early 1930's.

The Department has held hunts for antlerless deer in various areas throughout California since 1949, but compared to the number of bucks shot the take of antlerless deer in California has been small. In only four years has the antlerless harvest made up more than 10 percent of the total hunter kill. Except for the 1956 antlerless hunt the take never exceeded 15 percent. In most other states 25-40 percent of the total take is composed of antlerless deer. The 1956 season, when 110,949 deer were harvested legally (70,371 bucks and 40,578 antlerless) was the only season in which the total harvest of antlerless deer (37 percent) approached what is generally considered optimum rate of harvest. The 1956 three day either sex hunt was the only time that the taking of antlerless deer was not regulated on a permit basis. Following the 1956 hunt adverse public reaction to antlerless hunts increased. This resulted in legislation which limited the Fish and Game Commission's power to authorize special antlerless and either sex hunts. After the 1956 hunt deer herd numbers in California peaked several times and record buck kills occurred.

The greatest number of antlerless hunts was held in 1967 when 7,377 antlerless deer were taken during 66 special hunts. During the later stages of the deer decline fewer hunts were held; until 1974 only 9 special hunts were held and 511 antlerless animals taken.

The take of deer by legal hunting is the one major type of deer mortality that can be controlled or regulated. As deer habitat and deer numbers change the annual harvest of animals can be increased or decreased and the relative number of bucks and does taken adjusted also. Length of season, take of antlerless deer and herd unit quotas are means whereby total hunter take can be manipulated.

#### Illegal Kill

The exact numbers of illegally killed deer are unknown, but studies are underway to obtain better data. Current estimates indicate that in some areas the illegal kill may be equal to or exceed the legal harvest. Observations indicate that when deer ranges are adequate and deer numbers high, illegal kill has not been a major factor in population fluctuations. However, with ranges in poor condition and deer numbers low, illegal kills of productive female deer could be a significant factor in a further decline or factor inhibiting population recovery. Given improved habitat conditions and deer herds on the increase illegal kill at current or increased levels may be of such magnitude as to prevent the desired level of recovery unless adequate remedial action is taken.

#### Highway Mortality

Growing concern over the number of deer being killed by vehicles resulted in an intensive statewide survey in 1967, a joint project conducted by the Division of

Highways and the Department. That year 8,517 deer were recorded killed on highways. Recent estimates by the Department of Fish and Game and the Division of Highways indicate an annual highway kill statewide of up to 20,000. Methods should be developed to obtain more reliable estimates of the statewide highway deer mortality, and to reduce this loss. Although highway losses alone are not a significant factor in the present deer decline, combined with other factors such losses may be a factor in the deer recovery process while populations are at low levels.

#### Other Accidental Losses

There has been an increase in accidental losses other than those caused by highway mortality. Most accidental losses are related to human encroachment, activities and harassment on preferred deer areas. Accompanying the continued expansion of the water development in California is an increase in accidental deer drownings in canals and other project waterways such as the Folsom South Canal. For the past two years the recorded accidental loss has been 1,300. Using a projection factor the estimate of accidental loss is about 6,500 deer annually, a loss that needs attention, but not a major factor in the deer decline.

#### Depredation Permit Kills

On a statewide basis deer reported taken on depredation permits is a relatively minor mortality factor. Most permits are issued to protect agricultural crops. The largest number of animals reported taken by permit was 2,786 in 1964. In recent years the trend has been downward, probably due to the decreased deer populations. The annual number of deer taken on depredation permits has been less than 1,000 since 1968; there were 354 taken in 1974. An unknown number of animals are crippled and not included in the reported take.

Predation

It is well documented that coyotes and mountain lions are the main deer predators, excluding man. Bears, bobcats and eagles do not take many deer. Deer constitute a major portion of the diet of mountain lions. Although the numbers of deer taken by lions have not been documented the kill from this source may exceed the estimated highway kill of 25,000 deer annually. However, general sentiment regarding mountain lion-deer relationships precludes the taking of lions in a predator control program for the enhancement of deer.

The classification of free-roaming dogs as important predators of deer and other animals is relatively new. Recent legislation has provided the Department with authority to kill marauding dogs that are harassing wildlife. Control programs specifically designed to take free-roaming dogs have not been initiated although some of these animals are taken along with coyote control programs for the protection of livestock.

For many years controversy has raged regarding the merits of coyote control programs for the benefit of deer. In the 1930s-40s the Department carried on a substantial coyote and mountain lion control program. At the peak of the Department's control program 40 trappers and live-lion hunters were employed. The Department terminated direct participation in predator control programs in 1959. From 1960 to 1966 Fish and Game funds were contributed to a coyote control effort administered by the U. S. Fish and Wildlife Service. Since 1966 the Department has not participated in any coyote control program with the exception of the taking of a few problem animals on waterfowl areas.

Whether coyote control is economically feasible, biologically desirable or acceptable to many people is a question which still is open to much controversy.

Coyote control falls into two basic methods. They are mechanical (trapping or shooting) and chemical control with poisons.

It has been found that with mechanical methods it is not possible to remove enough coyotes to be effective over a broad area.

Also the expense of attempting such an operation would be prohibitive. Poison is the only effective and economical method of taking enough coyotes over a large area to have a significant effect on predator numbers. However, poisons are not selective in action and the most effective can produce secondary mortality among nontarget animals. For these reasons the use of toxicants has fallen into disfavor and at present federal regulations preclude the use of toxicants as a method to take predators.

Coyote control is not universally accepted as a useful management practice by the public. This includes not only segments of the general public but also sportsmen, ranchers, biologists, and others. The predator has gained acceptance as an important and useful part of the environment and is no longer considered a "villain." There is an increasing demand to give the coyote more protection, even at the expense of the live stock being lost to them. There is expected to be an increased interest in predators and their protection. In view of this a major program of predator control even as a deer management technique would be of questionable value.

Do predators take enough deer to cause a decline throughout California and the whole Pacific Northwest? The evidence is against such a supposition.

The staple foods of the coyote are rodents and rabbits. Department food habits studies do show that the coyotes eat some deer.

It is a generally accepted ecological principle that when habitat is adequate, any animal will flourish in the face of all natural mortality factors. Deer populations from the mid-1950s to the mid-1960s peaked several times in the face of all mortality factors, including predation. In areas where coyote populations are low (Marin County) and where coyote populations are high (Modoc County) deer populations have exhibited similar declines. The same phenomenon has occurred in relation to mountain lion predation. Deer numbers have declined in Fresno County where lion numbers are high and in Plumas County where lion populations are low.

Although not a factor in the overall statewide deer decline, predators can be an influence locally in suppressing deer numbers on ranges in bad condition, and upon deer in poor condition. For instance, where the natural protective cover in fawning areas has been badly overgrazed, predation may be a factor.

With deer populations down 70 percent from peak populations the coyote may now be a factor in inhibiting deer recovery until habitat conditions improve. More research is needed to establish an answer to this question.

PRELIMINARY DRAFT  
SUBJECT TO REVISION

Disease and Parasites

Death from disease and parasites has been and still is a factor in deer losses. However, losses from disease and/or parasites is usually a secondary factor and only a symptom of real problems such as excessive deer numbers, or poor nutrition, resulting from poor range conditions.

Examples are: losses from foot rot in inner coastal ranges due to overcrowded ranges; the high incidence (45 percent) of lungworms in Calaveras County fawns and losses in Kern County due to African louse infestations as a result of poor forage created by lack of spring rain, overgrazing by domestic livestock, and an overpopulation of deer. The most effective way to combat deer losses caused by disease and/or parasites is by maintaining a productive habitat and keeping animal numbers in balance with that habitat.

Unknown Causes

There is no doubt that man has learned a great deal about the complexities and interrelationships of the phenomenon of animal survival. In this regard there has probably been more effort expended in the study and management of deer than any other species of wildlife. It is safe to say that practically all of the important factors affecting survival of deer have been identified. However, as should be expected in the complex dynamic relationships of deer to a constantly changing environment, there are some factors important to survival that are either unknown or poorly understood.

Therefore, it should not be assumed that all the interrelationships that caused the current deer decline are known or that all actions necessary to implement a speedy recovery have been identified. It seems logical that a wholehearted effort should be made to utilize current knowledge in the solution of the problem while at the same time updating this information with practical research and investigation.

Summary of Other Loss Factors (What do they add up to?)

2-507

There are direct and indirect mortality factors that annually cause the loss of significant numbers of deer. But, the decline has occurred throughout California and the Pacific Northwest on ranges with varying degrees and types of direct and indirect mortality. The decline has occurred where antlerless hunts have been held over a number of years as well as on ranges where no antlerless deer are taken. It is being experienced on ranges with and without predator control, where there is little or no highway kill, and where there is no hunting and light illegal kill, such as occurs in the National Parks.

ENDING THE DECLINE

("When will the present decline stop?")

With the deer numbers down about 70 percent on many ranges, the Department feels that the decline is about to "bottom out." Lower deer numbers are taking some of the pressure off the range and conditions are improving in some areas; and recent weather trends have been favorable.

("Can the California deer herds be brought back?")

Given favorable weather patterns and an effective deer management program, the deer herds of California will recover. The Department would like to bring the deer population in California back to 1965 levels, but this probably is not possible due to many irreversible range trends and human encroachment on critical deer ranges. However, with a good plan, a good program and acceptance and implementation of that plan and program, some of the major deer herds of California can be brought back to an acceptable level. But what specifically will it take to accomplish the recovery of California deer herds?

1. Habitat Improvement (improve the quality of the range)

We have seen that to improve fawn production and increase fawn survival, the nutritional quality of deer habitat must be improved. Large scale habitat



improvement by mechanical means is economically prohibitive (although still an <sup>2</sup>508 option on some private and public lands). Hence, habitat improvement can best be accomplished by revising and using those practices and tools that are already at work on the deer ranges: (1) fire, (2) silvicultural practices and (3) grazing. Plant succession can be altered by fire, both controlled and wildfire burns, to stages beneficial to deer. The technology and methodology of working with fire are available. But, as long as traditional attitudes towards fire control prevail it will be difficult to obtain effective use of this management tool.

Many silvicultural practices are beneficial to deer. However, deer will have to be given a place in multi-purpose plans for forest management, if habitat is to be maintained and improved on forest lands.

Livestock grazing also can be used as a habitat improvement tool. Grazing need not be eliminated on deer ranges. But the intensity, period, length and type of livestock use will have to be controlled so deer can benefit. These are the tools to improve deer habitat. How can they be made to work?

The burden of improving the habitat on California deer ranges will fall on the major landowners, both public and private. Therefore, they will need incentives and assistance, both economic and technical, in order to get the job done. Economic incentives and assistance will have to come from an enlightened public and technical assistance from the Department of Fish and Game.

## 2. Prevention of Habitat Loss (improving the quantity of deer ranges)

Slowing down the loss of habitat will be a more difficult task than improving the habitat. It is all a matter of priority of land use. Often when it comes down to deer or trees, deer or subdivisions, deer or cattle, or deer or new water impoundments, the deer are left out or come out second best as is often

the case with wildlife resources. The Department endorses the concept of multiple-use and believes that we can have deer and trees, deer and cattle, deer and reservoirs; and even deer and subdivisions.

However, fitting deer into a multiple use concept will require placing an appropriate value on them. Deer habitat will need a place in overall local, county, state and federal land use plans, if the present rate of habitat loss in California is to decrease. The people of California will have to set the priorities necessary to decide whether there will be adequate numbers of deer for all to enjoy. How long will it take for the deer herds to recover?

### 3. Improved Weather Conditions

Weather is a large and unreliable factor affecting deer numbers and habitat. Weather normally exhibits cycles of "wet" and "dry" periods. Although there have been individual years of above normal or normal precipitation presently we are in an overall "dry" period, with a pattern of little early fall and late spring rainfall, which is favorable to deer. A return to a wet period and/or a more favorable distribution of fall and spring rains would have a beneficial (and predictable) effect on deer range conditions and deer numbers. However, at present there are unexplained changes in weather patterns all over the world. Whether these changes are normal and part of a regular cycle, or whether man has so influenced the world that some of the pattern changes are more insidious, is presently a matter of controversy and continuing debate.

However, given a favorable change in California weather patterns, the recovery of the deer herds will still take time, due to the many factors outlined. The degradation of the deer ranges and the decline in the deer numbers did not take place overnight; rather, it took place over a period of approximately twenty years. Therefore the recovery will not take place "overnight" either. Plant successions are not altered quickly; speedy implementation of programs is not always possible; and traditional attitudes are changed at a traditionally slow "snail's pace."

SUMMING IT UP

If the quality and quantity of California deer ranges continue in the present downward trend, or stabilize, deer numbers will fluctuate at present levels or decline even further. With programs to improve deer habitat and intensive efforts to slow down or stop the loss of deer habitat, most of the state's deer herds will increase in numbers. To accomplish the task necessary to improve the quality and safeguard the quantity of California deer ranges will call for a new level of cooperation between federal, state, county agencies, and especially those public, as well as private, agencies that own and are responsible for the management of much of the California deer ranges. The task will call for intensive management on herd-by-herd basis and legislative changes permitting control of deer numbers on that basis. And, in the final analysis, the task of improving the quality and quantity of deer ranges will depend upon the people of California who will decide whether the deer herds shall be returned to levels that will allow all, regardless of their pursuits or interests, to enjoy the priceless heritage of California's wild deer resources.

PRELIMINARY DRAFT  
SUBJECT TO REVISION

TOTAL TAKE IN THOUSANDS (ANTLERLESS & BUCK TAKE)

