

**COLORADO**  
**ENVIRONMENTAL COMMISSION**



**Second Interim Report**

**December 1971**



COLORADO ENVIRONMENTAL COMMISSION  
MEMBERSHIP

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\*Secretary: Robert Bronstein - Arapahoe County

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Sheldon R. Friedman - Englewood	*Robert P. Tone - Denver
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Kenneth E. Johnson - Grand Junction	Eric P. Wendt - Brush
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°°Richard D. Lamm - Denver	Raymond Wiggins - Denver
William H. Lee - Wheat Ridge	David C. Wilhelm - Denver
Richard M. Lemke - Lakewood	

Staff: Jane Vidal, Secretary to Coordinator of Environmental Problems

- \* Executive Committee Member
- ° Colorado State Senate Appointee
- °° Colorado House of Representatives Appointee



# Colorado Environmental Commission

600 State Social Services Building  
1575 Sherman Street  
Denver, Colorado 80203  
Telephone (303) 892-2444

## MONTHLY NEWSLETTER July 1, 1971

Food/Health/Hazards/Related Problems Committee met on June 2 to discuss areas of concern and possible recommendations for the final report. Another meeting was held on June 29 to finalize these recommendations.

Population and Related Problems Committee held a business meeting on June 3 for the purpose of discussing format and possible recommendations for the final report. The committee met again on June 17 to hear testimony on the state's policies and activities on economic development. The July meeting will be a business meeting to finalize recommendations.

Executive Committee held its meeting on June 7. Subjects of discussion were: public hearings, both past and future; committee recommendations for the final report, to be submitted by each committee before the July Executive Committee meeting; the next full commission meeting. Chairman Peters appointed a committee to draft the final report.

Transportation/Energy/Air Pollution/Noise/Related Problems Committee on June 10 heard testimony on the activities, as well as the future direction and needs, of the Air Pollution Control Division and the Air Pollution Control Commission of the Colorado Department of Health. An evening meeting was held on June 17 to work on recommendations for the final report. A meeting was held on June 28 to finalize these recommendations.

Public Hearing in Pueblo was held June 14 on the Southern Colorado State College campus. Testimony was heard on a variety of subjects of particular interest to the citizens of southeast and south-central Colorado.

Water/Water Pollution/Sewage/Related Problems Committee held an all-day meeting on June 15 to discuss outline and content of the committee's report. Assignments were made to the various committee members for writing up the committee's recommendations. Another meeting was held on June 28 to finalize these recommendations.

Land Use and Related Problems Committee held a meeting on June 28 to finalize its recommendations for the final report.

### Future Meetings:

Population - Friday, July 2 - 1:00 p.m. - Room C, State Capitol  
Executive - Monday, July 12 - 1:30 p.m. - Room C, State Capitol  
Land Use Committee Public Hearing in Steamboat Springs - sometime in July

### EXECUTIVE

#### COMMITTEE

Chairman Max S. Peters  
John R. Bermingham  
Harvey E. Brewbaker

Robert Bronstein  
Nick Paul Jannakos  
Ralph Sargent, Jr.

Robert E. Schilson  
Ruth Steel  
Robert J. Strawn, Jr.

Thomas W. Ten Eyck  
Ruth Weiner  
William M. White

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## MONTHLY NEWSLETTER

June 1, 1971

We wish to welcome two new legislative members to the commission: Senator Leslie R. Fowler of Boulder and Senator Maurice Parker of Fort Morgan. We now have ten legislative members and a total of fifty-seven members altogether.

Executive Committee met on May 3. Results of the Grand Junction Public Hearing were discussed, as well as arrangements for the public hearings to be held in Fort Collins and Pueblo and for the full commission meeting in May.

Transportation/Energy/Air Pollution/Noise Committee held two meetings in May. The meeting of May 10 was devoted to an exploration of the subject of energy supplies and requirements. Subjects of the meeting of May 26 were intra-state transportation and research on use of the Highway Users Funds. Air-pollution regulations and enforcement will be the topic of the June meeting.

Population Committee held a meeting on May 11 to learn of some of the key demographic and planning factors at work in Colorado. The next meeting will be a business meeting to discuss possible recommendations for the final report.

Food/Health/Hazards Committee met on May 12 for a business meeting and to discuss further the possible recommendation of a closed-system solid-waste/transportation/power-generating metropolitan system. More specific recommendations will be discussed at the June meeting.

Water/Water Pollution/Sewage Committee met on May 17 primarily to discuss a possible outline for the portion of the committee's report relating to water resources. This will be continued at the next meeting -- an all day meeting -- as well as other specific recommendations for the final report.

Land Use and Related Problems Committee met on May 18, prior to the full commission meeting, to discuss those portions of the committee's work which had been assigned to the various committee members. Another meeting was held on May 28 to continue this discussion and to review land-use bills submitted to the last session of the General Assembly.

Full Commission meeting on May 18 included committee reports, discussion of public hearings, analysis of legislative session results, future direction and strategy, and plans for final report.

Public Hearing was held all day in Fort Collins on May 24. Testimony was heard on a variety of subjects of particular interest to the citizens of northeast and north-central Colorado.

### Future meetings:

Food/Health/Hazards - Wednesday, June 2 - 1:30 p.m. - Room C, State Capitol  
Population - Thursday, June 3 - 1:30 p.m. - Room C, State Capitol  
Executive Committee - Monday, June 7 - 1:30 p.m. - Room C, State Capitol  
Transportation/Energy/Air Pollution/Noise - Thursday, June 10 - 1:30 p.m. - Room C  
Public Hearing in Pueblo - Monday, June 14 - all day - Southern Colorado State College  
Water/Water Pollution/Sewage - Tuesday, June 15 - all day - 9 a.m. to 4 p.m.  
Population - Thursday, June 17 - 1:30 p.m. - Room C, State Capitol  
Land Use - Monday, June 28 - 1:30 p.m. - Room C, State Capitol  
Government/Research/Education - not yet scheduled

### EXECUTIVE

<u>COMMITTEE</u>	Chairman Max S. Peters	Robert Bronstein	Robert E. Schilson	Thomas W. Ten Eyck
	John R. Bermingham	Nick Paul Jannakos	Ruth Steel	Ruth Weiner
	Harvey E. Brewbaker	Ralph Sargent, Jr.	Robert J. Strawn, Jr.	William M. White

# Colorado Environmental Commission

600 State Social Services Building  
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November 10, 1971

The Honorable John A. Love  
Governor, State of Colorado  
and  
The Honorable Members of the  
Colorado General Assembly

Gentlemen:

This letter and the attached supporting information constitute the second interim report of the Colorado Environmental Commission, as called for by the provisions of Senate Joint Resolution Number 23, Forty-seventh General Assembly.

This report is aimed primarily at providing recommendations which the Commission considers to be particularly important for action in the forthcoming session of the General Assembly. Eleven specific recommendations are presented. We urge the Governor to give serious consideration to the recommendations as possible components of his Call to the 1972 Legislature to permit them to be considered for legislative action in the forthcoming session. We also urge that appropriate funding be made available for implementation of any resulting legislation.

The eleven recommendations are:

1. Adoption of an Environmental Policy Act.
2. Conversion of the present Land Use Commission into a land use regulatory agency.
3. Creation of a department of transportation.
4. Adoption of measures to establish a state water management policy.
5. Adoption of a state population policy and establishment of a Council of Population Advisors.
6. The enactment of incentives to revitalize rural development in Colorado, without encouraging in-migration.
7. Establishment of a conservation trust fund.
8. Provision of funds for a study of the feasibility of combining a Front Range waste-collection/recycling/power-generating system with a regional transportation district.
9. Expansion of the authority of the State Water Pollution Control Commission.
10. Consideration of structural changes within the General Assembly.
11. Adoption of a constitutional amendment providing for a right to a healthful environment.

The first recommendation was voted by the Commission as its first priority recommendation from the viewpoint of need for immediate action.

This recommendation proposes the adoption of a Colorado Environmental Policy Act providing for a legislative environmental policy, assessment of the environmental impact of proposed actions, and an Environmental Quality Council or Commission to carry out the act.

Information is attached which spells out in brief form the basic goals endorsed by the Commission related to the specific recommendations presented with this report. In addition, an analysis is given for each of the recommendations, presenting basic data on key points related to the various topics.

Prior to its official termination on April 1, 1972, the Commission will submit a final report. This final report will include factual information concerning Colorado and its environmental problems, with a discussion of alternatives for the environmental future of Colorado. In addition to the recommendations presented with this second interim report, numerous additional recommendations essential to the long-range future of Colorado will be presented. During the coming months, the Commission will be working on completing the final report in an effort to give as much analytical information and basis for future action as possible. It is anticipated that this final report will be one which can be referred to during at least the next five years by the public and legislative members for ideas relative to legislation needed for the environmental future of our State, as well as for basic factual and analytical information to use for new legislation and planning functions.

The Commission has continued to use the committee and public-hearing approach to gather and interpret information, as was described in its first interim report issued on December 1, 1970. During the past year, the Executive Committee plus local Commission members conducted full-day public hearings in Denver, Grand Junction, Fort Collins, and Pueblo. Full Commission meetings were held on January 5, May 18, September 1, and October 19.

While the Commission has been moving forward with its own efforts, there have been concurrent studies bearing on its recommendations. In this category are the activities of the Colorado Land Use Commission, the Air Pollution Control Commission, the Water Pollution Control Commission, the Rural Development Commission, and the Legislative Balanced Population Committee. The Commission has remained aware of the activities of these groups, and their viewpoints have been taken into account in preparing this report.

It is significant to note that the Commission came to essential agreement on the major recommendations needed for immediate action and consideration for the Governor's Call to the 1972 Legislature. In developing the recommendations, the Commission has profited from testimony and information provided by numerous public citizens, organizations, and state personnel. We would like to put particular emphasis on the conclusion we drew from our many public hearings that the citizens of Colorado are ready for action relative to our environmental future and are expecting some immediate results. We feel it is particularly appropriate and important, therefore, that some form of environmental legislation of significance result during the forthcoming legislative session.

We shall be pleased to provide additional information and briefings if you so desire. All of the Commission members will be happy to assist in any way during the coming legislative process.

Respectfully,

*Max S. Peters*

Max S. Peters  
Chairman

## RECOMMENDATIONS

The Commission has considered more than two hundred possible recommendations, all of them of legitimate concern and worthy of being passed on to the General Assembly. Many of these will be treated in the final report of the Commission. For this interim report, however, we have limited our recommendations to those which are considered necessary for action at the 1972 General Assembly Session.

We found it desirable, in making our recommendations, to first set down the goals which we were trying to achieve. In environmental matters, which are currently highly controversial, there is need for the development of consensus before we can all move ahead together to solutions. If there is consensus about goals, then specific recommendations will be better understood.

These goals are:

- (a) Institute, in all three branches of state government, those permanent legal, structural, and financial arrangements required for planning and coordinating the protection, preservation, and enhancement of the quality of the environment.
- (b) Develop the massive educational effort and political consensus required for protecting, preserving, and enhancing the quality of the environment.
- (c) Stabilize and plan the distribution of the population of Colorado, with consideration for the ecological balance, present and future.
- (d) Achieve integration of state water, land use, environmental, and population policies.
- (e) Create balanced transportation systems within the state.
- (f) Adopt the principle of recycling in resource use throughout the state.

To help achieve these goals, we make eleven recommendations for action at the 1972 General Assembly Session. Each of these recommendations is explained in the pages which follow.

RECOMMENDATION #1. THE GENERAL ASSEMBLY SHOULD PROCEED IMMEDIATELY TO REVIEW AND RESTRUCTURE THE ENVIRONMENTAL DECISION-MAKING AGENCIES IN THE STATE SO AS TO PROVIDE STRONG ENVIRONMENTAL CONTROLS THAT ARE COMPLETE, EFFECTIVE, AND COORDINATED; AND, AS AN INITIAL STEP TOWARD THAT OBJECTIVE, THE GENERAL ASSEMBLY SHOULD ENACT AN ENVIRONMENTAL POLICY ACT.

The Commission finds -- as the single, most important structural deficiency in the Colorado State government in terms of gaining control of the complex future problems of the State -- that there is no integrated, professionalized system of environmental management in Colorado. Responsibility and expertise on environmental-quality control is fragmented among a multitude of state agencies: Department of Health; State Land Board; Game, Fish and Parks Division; Department of Highways; State Planning Office; Department of Natural Resources; Land Use Commission; Public Utilities Commission; Air Pollution Control Commission; Air Pollution Variance Board; Water Pollution Control Commission; Coordinator of Environmental Problems. This fragmentation results in prevention of long-range environmental planning; lack of interagency coordination and cooperation; inadequate authority for environmental control; insufficient public participation in the decision-making process; duplication of funding and personnel; and failure of state agencies to recognize environmental problems.

The Commission recommends that the General Assembly begin now to review, restructure, and coordinate the environmental decision-making agencies in the State. As a first step toward such restructuring, the General Assembly should enact an Environmental Policy Act. Such an act should provide for a legislative environmental policy, for mandatory assessment of the environmental impact of proposed actions, for an Environmental Quality Council or Commission to carry out the act, and for citizen participation in environmental processes. Such an act should be enacted at the next session of the General Assembly.

The Colorado Environmental Policy Act should be patterned after the National Environmental Policy Act of 1969.<sup>1</sup> The act should direct that all state programs shall be improved and coordinated to the end of protecting, preserving, and enhancing the quality of the environment of the state for the benefit of the citizens of the state. This act should articulate statewide environmental-quality goals and policies and should direct that all policies, regulations, and public laws of the State, including its political subdivisions, shall be interpreted and administered in accordance with the policies set forth in the act. Such a declaration would provide the conceptual framework within which to make major environmental decisions at all levels of state activity.

In addition, The Commission recommends that an Environmental Quality Council or Commission, similar to the National Council on Environmental Quality,<sup>2</sup> be established initially in the Office of the Governor. The council or commission could consist of either three full-time members or five-to-seven part-time members, to be appointed by the Governor. Each person appointed to the council or commission should, as a result of his

<sup>1</sup>P.L. 91-190, 91st Congress, S. 1075, January 1, 1970.

<sup>2</sup>cf. P.L. 91-190, 91st Congress, S. 1075, January 1, 1970.



training or experience, be well qualified to analyze and interpret environmental trends, and appraise state programs in light of the environmental policy set forth in the act.

The duties of the council or commission should include the following:

1. To formulate and from time to time revise a statewide environmental plan for the management, improvement, and protection of the environment and natural resources of the state in furtherance of the environmental policy and purposes expressed in the act.
2. To formulate and publish criteria or guidelines to assist state or local agencies in making environmental impact statements before proposed actions are undertaken significantly affecting the environment.
3. To advise and cooperate with municipal, county, regional, or other local or state agencies regarding the conservation or improvement of environmental quality.
4. To conduct continuing investigations, studies, research, and analyses relating to ecological systems and environmental quality and improvement.
5. To periodically transmit to the Governor and the General Assembly reports setting forth the status of the overall environmental management program in the state, a review of the programs and activities of the federal government, with particular reference to their effect on environmental programs and activities in the state, and setting forth a specific program for remedying deficiencies of existing programs and activities in the state, together with recommendations for legislation.

In addition, the council or commission should be authorized to conduct investigations, hold hearings, and compel appearance of witnesses; and should be authorized to issue cease and desist orders and apply to the courts for injunction.

The current single-man position of Coordinator of Environmental Problems, in the Office of the Governor, should have its functions absorbed into the new council or commission. In recommending the establishment of a new Environmental Quality Council or Commission initially in the Office of the Governor, the Commission is of the opinion that the establishment of such new council or commission should provide a framework for future consolidation or reorganization of existing state agencies.

The Commission urges the adoption of an Environmental Policy Act as one of the indispensable prerequisites toward achieving a future, total statewide environmental-protective system.

RECOMMENDATION #2. THE GENERAL ASSEMBLY CONVERT THE PRESENT LAND USE COMMISSION INTO A LAND USE REGULATORY AGENCY AND GRANT IT THE ADDITIONAL AUTHORITY IT NEEDS TO BE SUCH A REGULATORY AGENCY; AND THAT THERE BE A LEGISLATIVE MORATORIUM ON ALL SUBDIVISIONS IN UNINCORPORATED AREAS UNTIL THE LAND USE COMMISSION HAS PUBLISHED ITS SUBDIVISION REGULATIONS.

Colorado is one of the fastest growing states in the United States. People from all parts of the United States are coming here to live permanently or to develop second homes for recreational purposes. This has resulted in a land boom of gigantic proportions all over the state.

There has been reliance in the past on county and municipal regulations with respect to land purchase and development. This was acceptable while populations were small and communities were spread far apart, land development was slow, zoning changes and annexations were infrequent, and the environmental impact of development was slight.

Conditions have changed today. Colorado is now an urban state, projected to have four million people within the next thirty years. Along our populous Front Range, hundreds of governmental service jurisdictions have been created, with questionable tax bases and overlapping authorities. There has been little recognition, in this rapid development, of the geological and engineering constraints of present and potential land slides, mud slides, and avalanche areas; swelling and settling soil areas; unstable, steep slopes; fractures, faults, and earthquake-prone areas; subsidence of land due to withdrawal of waters and minerals. Neither has there been adequate recognition of the geological problems in septic-tank pollution, mine tailings, solid-waste disposal in landfill and gravel-pit areas, and sanitary water availability. The environmental impact of these developments, most notable in the mountain communities, has created regional and statewide recognition of the need for protective controls.

The Commission recognizes that there is need for much greater emphasis on the use of the geological and engineering sciences in research and mapping of hazardous areas in which developments are taking place. The General Assembly created the Land Use Commission in 1970, but thus far has limited its authority primarily to non-regulatory functions. Thus the State has given strong regulatory control over air and water pollution but has not yet created a compatible and coordinating agency over land use to work with these other control agencies for the best interests of all the people of Colorado.

The Commission believes that it is now time for a state-level land-use regulatory agency, on a par in authority and stature with the Air Pollution Control Commission and the Water Pollution Control Commission, to be created. Such an agency regulating statewide land use would work with local governments and regional planning commissions. It should set minimum standards and criteria, together with regulations for their implementation, to guide the land-use pattern of this state in the future. These standards and criteria should be carried out through regional planning commissions, with a review and appeal authority in the State Land Use Commission. The Commission urges that the General Assembly grant the Land Use Commission the following type of authority:

1. Statewide master land-use planning, into which regional and local land-use planning would mesh;
2. Flood-plain use criteria and minimum standards;
3. Geological and engineering criteria and minimum standards;
4. Performance-bond and construction-guarantee criteria and minimum standards;
5. Planning and zoning criteria and minimum standards;
6. Variance criteria and minimum standards;
7. Planned-unit-development criteria and minimum standards;
8. Criteria for the evaluation of optimum size and land-development carrying capacity of communities;
9. Mobile-home development criteria and minimum standards;
10. Open space and conservation criteria and minimum standards;
11. Land-sale notice and prospectus criteria and minimum standards;
12. Highway strip-development criteria and minimum standards;
13. Criteria for multiple land-use for the recovery of mineral resources, such as gravel, or other economic utilization of land for landfill, recreational facilities, or building sites;
14. Mine-reclamation and strip-mining criteria and minimum standards;
15. Methods to protect prime agricultural land, together with incentives to promote agricultural and open-space land utilization;
16. Hearings and appeals authority;
17. Cease and desist authority in instances of non-compliance with minimum state standards.

Finally, the Commission urges that there be a legislative moratorium on any new subdivision creation in unincorporated areas until such time as the Land Use Commission publishes its subdivision regulations.



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\*\* Summary of Minutes

FULL COMMISSION MEETING

October 19, 1971 - 1:30 p.m. - 711 State Social Services Building

Members present: Chairman Max Peters, Secretary Robert Bronstein, John Bermingham, Harvey E. Brewbaker, Karl E. Carson, George Fentress, Hugo Ferchau, Hugh Fowler, Leslie Fowler, Charles Hobson, Kenneth E. Johnson, Richard F. LaForce, Richard Lamm, William H. Lee, William A. McGilvray, Keith G. Mumby, Maurice Parker, Joseph A. Reich, Clarence A. Rutz, Robert E. Schilson, Ruth A. Steel, Robert P. Tone, Anthony Vollack, Ruth Weiner, Eric P. Wendt, Robert J. Strawn, Jr., Raymond Wiggins.

Members absent: Charles R. Arment, Robert A. Briggs, Jr., J. William Bullock, Hyman Chai, E. H. Crabtree, \*W. Perry Eberhart, Adrian G. Ehernberger, Thomas C. Fischer, G. Crawford Follmer, Sheldon E. Friedman, Edward Hirschfeld, Nick Paul Jannakos, \*Steve Knowlton, Richard W. Lemke, Richard E. Nenno, Daryl E. Peterson, Frank J. Rolla, Rufe Romero, Jr., Ralph Sargent, Jr., Samuel J. Sweet, Thomas W. Ten Eyck, Ian Thompson, Clifford C. Walker, William H. Webster, Paul G. West, William M. White, David C. Wilhelm, \*Ted Bryant, Wallace Hinman, Jerry Rose.

\* Attended committee meeting in morning

Also present: Cynthia Jessel, Elizabeth Richardson, Mary L. Parmelee, Judy Hamilton (all of League of Women Voters); Bruce Imfeld (Zero Population Growth); Dr. Douglas Seba (Rosensteil School of Marine and Atmospheric Sciences of the University of Miami); Ray Stromme (Colorado Environmental Legal Services); Robert Person (Public Service Company); Dick Tucker (Rocky Mountain News).

There were many items of minor word change proposed by the various committees for the Second Interim Report of the Commission; the ones which were accepted were referred to the Drafting Committee for amending of the report before publication.

The principal change which occurred as a result of the meeting was the change in priority in importance of items. The new priority is shown on the attached page. By consensus of the members present, items will be listed in the priority shown but will all be treated as being of equal importance in the report except for the first item, which will be listed as the first priority for immediate action.

The Drafting Committee will now go to work on the Final Report. The Full Commission will be meeting sometime in January to approve the report for publication; the exact publication date will be at the discretion of the Executive Committee, but it will be sometime in March.

\*\* This will also substitute for the newsletter this month.  
Attachment

Results of balloting for priorities of Recommendations Number 1 through 11  
Full Commission Meeting, October 19, 1971

<u>Old Recommendation #</u>	<u>Total Points</u>	<u>New Priority</u>
1	234	1
2	192	3
3	189	4
4	99	10
5	201	2
6	172	5
7	126	7
8	124	8
9	101	9
10	73	11
11	136	6

New Order of Priority

1	Adoption of Environmental Policy Act
2	Conversion of present Land Use Commission into a land-use regulatory agency
3	Creation of Department of Transportation
4	Adoption of measures to establish a state water management policy
5	Adoption of state population policy and establish- ment of Council of Population Advisors
6	Enactment of incentives to revitalize rural develop- ment in Colorado, without encouraging in-migration
7	Establishment of a conservation trust fund
8	Provision of funds for a study of feasibility of com- bining waste-collection/recycling/power-generating system with a regional transportation district
9	Expansion of the authority of State Water Pollution Control Commission
10	Consideration of structural changes within the General Assembly
11	Adoption of constitutional amendment providing for a right to a healthful environment

RECOMMENDATION #3. THE GENERAL ASSEMBLY CREATE A DEPARTMENT OF TRANSPORTATION AS A PRINCIPAL DEPARTMENT OF STATE GOVERNMENT, WITH THE EXISTING HIGHWAY DEPARTMENT AS A DIVISION. INCLUDED WITHIN ITS JURISDICTION WOULD BE:

- (1) PLANNING, CONTROL, AND COORDINATION OF ALL FORMS OF TRANSPORTATION.
- (2) COORDINATION OF TRANSPORTATION WITH OTHER AGENCIES TO MINIMIZE ENVIRONMENTAL DEGRADATION.

It is necessary that the State of Colorado think in terms of total transportation systems rather than highways as "the" form of transportation. Until and unless the State of Colorado has comprehensive transportation planning, and has this as the function of a division or department of state government, all recommendations relative to transportation are moot.

The people of Colorado are highly dependent on the automobile as the primary mode of transportation. Few Colorado cities have municipal bus systems or other forms of mass transit; there is very little intercity bus or rail service. At one time, both mass transit in Denver and intercity bus and rail transportation may have been adequate; these forms of transportation were allowed to deteriorate in favor of an automobile/highway system. Per capita ownership of automobiles in Colorado is among the highest in the United States. Yet, a large number of Colorado citizens, notably elderly, poor, and minority groups, depend on means of transportation other than the private automobile. We need to develop a completely balanced transportation system throughout the state.

Colorado also has a growing air-pollution problem, especially in the major urban areas. Automobile exhaust is the major contributor to air pollution, including irritation and unaesthetic photochemical smog. Thus, the more heavily we depend on the private car for transportation the more cars there are on the road and the more polluted the air becomes. We must break out of this vicious cycle of autos/highways/air-pollution. Transportation in Colorado must be viewed as one integrated function.

State funds for transportation are spent almost exclusively on highways. This situation places an unusual burden both on the resources and decision-making processes of the State. A disproportionate share of the State's resources go for highway construction simply because there is little alternative form of transportation to the automobile. The expenditure of funds and resources almost exclusively for highways perpetuates the heavy dependence on the automobile. The Colorado Department of Highways, whose sole mission is highway construction and maintenance, has the second largest expenditure rate among the seventeen departments of State government. The decision-making process ultimately becomes self-defeating: lack of alternate modes of transportation leads to the need for more automobiles and more highways, and thus for more highway construction and



widening and the dedication of more highway-user monies to highway construction, at the expense of other modes of transportation. It is necessary that the people of Colorado think in terms of total transportation systems, rather than highways as the one form of transportation. It may be more important in some instances to create an airport than a highway.

We are thus recommending the creation of a Department of Transportation, with the following features:

1. Planning, control, and coordination of air, bus, highway, rail, and other forms of transportation.
2. Transportation planning to include consideration of environmental factors and to include coordination with the Environmental Quality Council or Commission proposed in Recommendation #1.
3. Improvement of non-automobile mass transportation including inter- and intra-city transportation, and transportation to recreation areas.

The present highway department should be transferred into such a new transportation department. Its powers and duties should require consideration of other forms of transportation -- special bus, bicycle, and equestrian lanes -- in all highway construction. Requirements for the consideration of environmental factors -- including aesthetics, noise reduction, and tree planting -- should be incorporated into the cost of highway construction.

The Commission feels that the creation of a new Transportation Department is an indispensable step toward a future state environmental protective system and urges its adoption at the forthcoming General Assembly session.

RECOMMENDATION #4. THE GENERAL ASSEMBLY ADOPT MEASURES TO ESTABLISH A STATE WATER-MANAGEMENT POLICY THAT WOULD:

- (1) COORDINATE WATER RESOURCE MANAGEMENT WITH LAND USE PLANNING, NATURAL RESOURCE MANAGEMENT, POPULATION POLICIES, AND ENVIRONMENTAL POLICIES.
- (2) ESTABLISH OPTIMUM PRACTICAL WATER-CONSERVATION PRACTICES AND EFFICIENT UTILIZATION OF WATER TO ASSURE ADEQUATE SUPPLIES FOR ALL TYPES OF WATER USE.
- (3) PROTECT THE QUALITY OF THE STATE'S WATERS THROUGH EFFECTIVE WATER-POLLUTION CONTROL MEASURES.

Water is a finite resource in Colorado. Therefore, effective management of water use is fundamental to environmental quality in the state. Of some 16 million acre-feet of annual surface stream flow, we are entitled by interstate compacts and Supreme Court decisions to about 10 million acre-feet. Net ground water reserves may increase our total annual supply to about 12 million acre-feet per year. If we allow sufficient water for stream flow and on-site needs, then we have possibly 9.0 million acre-feet annually from all sources for municipal/industrial and agricultural consumption. We now consume 7.4 million acre-feet annually for these purposes. Our available supply is what it was one hundred years ago and is not likely to be increased by continental or international transfers for at least thirty to fifty years, if ever.

Colorado has treated water as a negotiable commodity, separate from the land through which it flows. Land and water rights can be bought and sold separately. As such, water is sometimes more valuable than the land on which it exists, municipal/industrial interests outbid agriculture for its use, and water supplies necessary for stream flow and on-site uses are threatened by expanding demands for human consumption. We must ask ourselves if present approaches to deciding water uses are in the best interest of Colorado.

The availability and quality of water is a major factor in the economic development of the state. As of now, patterns of land use, population distribution, and industrial development are often directed by water districts deciding where and how water is to be distributed. Most of these water districts are in municipalities along the Front Range corridor, and their policies are accelerating development of a "strip megalopolis," with some districts competing with each other for the revenue dollar. Land development follows water, and critical decisions on land use are now being made by private land developers motivated by a quick return on their investment, with environmental considerations often receiving little attention.

With water being such a critical factor in Colorado's future, we urge that this resource be managed so as to attain statewide long-range goals. In particular, policies on water management should be coordinated with policies on land use, natural resource management, and policies on population and environment. Serious thought should be given to managing water resources so as to direct population and economic changes in the state and to define the limits of each where this is desirable.

## Water Management

Because water is a finite resource in Colorado, effective management of its use is very important. In addition to present laws applying to the administration of water, improved management should be provided through statutory direction for river-basin management in each river basin in the state. Each basin should be sub-districted to facilitate administration and management of water, with the State Engineer being the chief administrator of the total system, if existing entities default their responsibility for management.

Water must be recognized as a key resource in a complex water-use system. Adequate supplies must be assured for three basic types of use. These are:

### 1. Consumptive Use

This is complete consumption of water for agricultural, municipal, and industrial purposes. As population increases, consumptive depletion will increase, and the tendency is for agricultural water to be diverted to municipal/industrial uses. Likewise, we tend to "steal" water vital to stream flow and on-site uses.

### 2. Stream-Flow Uses

A certain amount of water is required to maintain adequate stream flow for maintenance of fish habitat, wildlife support, recreation, power generation, interstate compact commitments, and waste carriage and disposal. In Colorado, these are uses critical to environmental quality, and the water supply for these needs must be protected against the increasing demands of consumptive use.

### 3. On-Site Uses

On-site waters in Colorado include many lakes, especially in the mountains, and marshlands vital to wildlife support. Preservation of these uses is vital to environmental quality.

If we assume stream flow and on-site uses for Colorado are typical of these uses for the West,<sup>3</sup> then possibly 9 million acre-feet of our water resources would have to be reserved annually for these needs, including flow on the rivers claimed downstream. That leaves some 7.0 million acre-feet of surface water annually plus ground water to supply consumptive withdrawal uses. If water consumption increases markedly in the future, then some uses will have to be curtailed in preference to others. It therefore becomes important to define goals for water use in order to assure adequate supplies for all uses critical to environmental quality.

<sup>3</sup>Landsberg, Hans H.; Fischman, Leonard L.; and Fisher, Joseph L.; *Resources in America's Future*, The Johns Hopkins Press, 1963.



Fundamental to effective water management is an accurate inventory of water resources. Engineering studies, now under way, should be given sufficient priority and funding so that an accurate picture is developed of all hydrologic regimes in all river basins. Such a study should encompass both surface-water flow and underground systems. Mathematical modeling of entire basins should follow. Only in this way can the most beneficial and efficient uses of our waters be assured. It will be invaluable in determining the part water should play in directing Colorado's future, even to defining the limits of population and economic development in the state.

We recommend that effective water management encompass the following additional features:

#### Measurement of Water

All water use should be metered as accurately as possible. All water rights should be measured in the same terms. The determining factors in the amount of water to which users have rights should be average yearly historic use as adjusted by irrigation requirements.

#### Administration of Wells and Tributary Aquifers

Because virtually all surface decrees are senior to diversions from underground sources, well owners should be responsible for the satisfaction of these senior decrees, but only up to their average historic diversions as adjusted by irrigation requirements. Once these senior decrees are satisfied, wells should be free to use all the average annual recharge of the underground aquifers, according to priorities among wells. All well administration, however, should be subject to examination for its long-term ecological impact.

#### Return Flow

The use of water is rarely entirely consumptive. A part, quite often a very large part, of the water diverted is returned, after use, to the streams and aquifers. The quality of return flow should be such that it does not preclude subsequent beneficial use of the water or injure the stream ecology.

#### Augmentation of Water Supplies

Research efforts should be continued on means of augmenting water supplies by weather modification and water recycling. The General Assembly should also amend the existing law relating to weather-modification licensing to provide more comprehensive control of these operations. Specifically, there should be an environmental impact statement required on all modification efforts before any permit is granted. This impact statement could be filed with the Environmental Quality Council or Commission described in Recommendation #1.

#### Diversion of Water

We urge the General Assembly to statutorily halt any further diversion of water from one basin to another in Colorado until the statewide

environmental implications of such diversions are examined objectively by an agency charged with such examinations, such as the Environmental Quality Council or Commission described in Recommendation #1.

#### Dams, Channels, and Flood Plains

Dams are usually constructed for conservation purposes, flood control, water diversion, or hydroelectric power generation. Such structures are bound to have an impact on the ecological systems along streams. We recommend that before dams are built or channels of streams are altered, the long-range environmental impact be determined by some agency such as the Environmental Quality Council or Commission described in Recommendation #1.

Of particular concern is the encroachment of human activity on the flood plains of streams. We therefore recommend that criteria be established for defining flood plains and that standards be set for regulating encroachment. Where possible, flood plains should be preserved as greenbelts, recreation areas, and nature preserves, with the use of proper flood-control measures; indiscriminate construction of flood-control dams should be avoided.

#### Water Quality

Recommendations in this report relative to water quality are presented in Recommendation #9.

RECOMMENDATION #5. THE GENERAL ASSEMBLY ENACT A STATE POPULATION POLICY, INCLUDING THE ESTABLISHMENT OF A COUNCIL OF POPULATION ADVISORS.

Man's activities cause a variety of disruptions to the ecological balance of the universe, and the geometric progression of human numbers is the single most important force on both social and natural environments. As Governor John Love stated in proclaiming Population Concern Week 1970: "The problems associated with population growth begin, but do not end, with millions of births each year. Crowded living conditions produce profound psychological pressures in the individual and produce tremendous social pressures in our society. Our consumption of a natural resource magnifies the population problem through pollution and deterioration. Lest these problems overwhelm us, it is vitally important that we become aware of the necessity for making some basic changes in our values, goals and life styles."

In Colorado, there is reason to be concerned over both the growth and distribution of population. During the past ten years, this state's population grew 25.8% -- 232,872 by natural increase and 220,440 by immigration.<sup>4</sup> This increase, from 1,753,947 to the present 2,207,259, is almost twice the national average of 13.3%, making Colorado sixth in the nation in growth. A 25.8% increase in ten years corresponds to an annual growth rate of 2.3% -- corresponding to a population doubling every thirty years. By the year 2000, Colorado is expected to have some four million inhabitants; by 2030, over six million.<sup>5</sup>

Even more dramatic patterns of growth are predicted for the future. High fertility rates, fecundity and the exodus of Californians and easterners trying to escape their overpopulated states leaves little doubt that we must consider alternatives to the laissez-faire, growth-oriented patterns of the past. We must begin to anticipate and to plan.

Colorado's 104,247 square miles are finite, and her delicate ecosystems cannot support unlimited growth or an environmentally exploitative economy. Limiting factors -- such as geological constraints, power consumption, pollution, resource depletion, and most importantly, water -- are imperatives to developing goals, policy and consensus, as well as establishing methods for stabilizing Colorado's population, at the earliest possible date.

In considering problems associated with the population explosion, it is imperative that we also recognize the impact of population implosion, or internal migration. Serious questions are being posed as to whether metropolitan areas are manageable after a certain size, and it can be demonstrated that a rapidly growing population places extreme economic pressures on taxpayers to meet continuously increasing demands for public services of all kinds. In the long run, quality of service declines, per capita incomes suffer, government proliferates, traditional freedoms diminish, social and physical environments deteriorate, and it

<sup>4</sup>Figures obtained from the Colorado State Planning Office.

<sup>5</sup>Projections of the State Planning Office.

ultimately becomes apparent that we have to constantly move faster in order to merely keep pace with ever-increasing commitments.

Extended growth in the Front Range Corridor compels us to recognize that during the past fifty years, 90% to 95% of Colorado's growth has occurred in that area. Approximately 1.8 million of the state's people live in the thirteen counties along the east side of the Front Range,<sup>6</sup> with approximately 1.2 million concentrated in the five-county Denver metropolitan area.<sup>7</sup> Because these trends tend to be self-perpetuating, only a determined effort by the Governor, the General Assembly, and the people of Colorado can alter them.

Although growth in Colorado is maldistributed, redistribution per se is not a solution to the population and ecological problems with which we are confronted. Although some environmental, social, and economic problems may be temporarily alleviated by redirecting growth, this alone will not solve the problem. In short, the question of optimum population is an issue which our state, the nation, and the world must face in the immediate future. With consideration for the carrying capacity of the land, diseconomies of scale, dependency ratios, social costs, environmental health hazards -- as well as many other demographic and ecological factors -- planned change, rather than adaptation, must become the criterion for solutions. Furthermore, unless we can accurately assess the impact of population on both the natural and urban environments with precision and accuracy -- by grappling with the ecological, social and economic issues related thereto -- we will not have fulfilled our obligation to the future of this state or its citizens.

The existence of the President's Committee on Population and the American Future; the recent formation of the Coalition for a National Population Policy; introduction in the United States Senate, during the 92nd Congress, of S.J. Resolution 108, concerning a United States policy of population stabilization -- simply underscore the urgency and seriousness of the problem. Colorado, with its unique problems which demand immediate solution, should lead the nation, and the world, in the establishment of a population policy.

A State Population Policy would recognize that zero population growth is an inescapable fact. The only question is *when* and *how*. We must take the steps now to establish population goals and establish programs to limit population growth voluntarily, or natural methods will bring about zero growth by violent means while we wait. The former approach can lead to a quality life; the latter can only lead to disaster. The policy should establish State objectives, methods for their achievement, and a means of evaluating progress in meeting these objectives.

To this end, the Commission recommends that the General Assembly adopt a policy of population stabilization for Colorado, to be achieved

<sup>6</sup>Weld, Larimer, Boulder, Adams, Denver, Jefferson, Arapahoe, Douglas, El Paso, Fremont, Pueblo, Huerfano, Las Animas.

<sup>7</sup>Denver, Adams, Arapahoe, Jefferson, Boulder.

at the earliest possible date, and to be accompanied by the coordination of all activities of state government to be consistent with such a policy. Within the framework of a stable population policy, we recommend:

1. The institution of a state population distribution and planning process which takes into consideration geological, sociological, economic, and environmental impact.
2. A statutory requirement that the economic, sociological and ecological activities of all communities be coordinated and that state subsidy of a growth policy be ended.
3. A statutory requirement that all political jurisdictions be involved with state planning agencies in determining population limitation patterns and keeping open space between jurisdictions.

Population growth is caused by natural increase (births minus deaths) and in-migration. To achieve population stabilization, it is necessary to deal with both factors.

The principal cause of population growth in the United States can be attributed to the reproductive behavior of the majority of Americans, who aspire to families of three or more children, thereby generating a growth rate which exceeds that required for population stability. Therefore, any policy designed to influence reproductive goals must concern itself with all fecund Americans -- not just the poor -- and must also relate to family-size goals -- not just methods of contraception.

It is also important to recognize that if a two-child family norm were established in the United States today, the "braking distance" would preclude stabilization until well into the next century (2037) at close to 300 million people. By contrast, a three-child family norm would result in 400 million people by 2014, and an estimated 700-800 million people by 2050.<sup>8</sup>

Obviously then, in addition to giving high priority to the funding of all aspects of fertility control, the General Assembly should:

4. Enact all possible legislative incentives to birth-rate reduction, including tax incentives for small families.
5. Recognize the importance of education in changing individual attitudes and social goals. Programs in population dynamics should be encouraged (by funding if necessary) at all levels of academic endeavor, both public and private; and all mass communications should be enlisted to aid in the education process.

A policy of population stabilization would necessitate the following:

6. The utilization of a competent environmental resource inventory and systems modeling for intelligent, predictable, long-range planning.

<sup>8</sup>Commission on Population Growth and the American Future, *Interim Report*, March 16, 1971, Superintendent of Documents, Washington, D. C.



7. Revision of Colorado's commerce and development policy, to represent a philosophy of stabilization, not growth. Its purpose should be to channel industry which does want to move to Colorado to those parts of the state which need it.
8. Adoption of an industrial site selection law, similar to Maine's, giving the State new controls over the location of new industry.
9. Utilization of water policy and utility-service distribution to control and direct growth.
10. Encouragement of Colorado's congressmen to hasten development of a national population stabilization policy.

Finally, we urge that the Governor have a Council of Population Advisors to conduct research and to make recommendations on the following subjects:

1. Demographic implications of population growth: patterns and trends (fertility rates, migration, explosion, implosion, etc.).
2. Effects of cultural influences, attitudes and pronatalist policies on population growth.
3. Social costs of a rapidly growing population: urban decay, mental and physical health, housing, employment, crime, etc.
4. Economic costs of a growing population: government, taxes, schools, highways, facilities, dependency ratio, etc.
5. Ecological costs of a growing population: environmental degradation, resource depletion, carrying capacity, etc.
6. Aesthetic costs of a rapidly growing population: urban sprawl; desensitization or impersonalization of most facets of life, reflecting in lack of concern for the environment.
7. Population distribution, within the framework of a stable population.
8. Public education in population dynamics and responsible parenthood.
9. Means by which the State of Colorado can broaden provision of, and access to, fertility-control services.
10. Means by which the State of Colorado can help to promote research related to human reproduction.
11. Systematic evaluation of progress toward stated objectives, which would include the development of systems modeling for intelligent, predictive, long-range planning.
12. The function and structure of a permanent population agency within the framework of the governmental reorganization being recommended in Recommendation #1 of this report.

RECOMMENDATION #6

THE GENERAL ASSEMBLY ENACT A POLICY OF RURAL REVITALIZATION, WITHOUT STIMULATING IN-MIGRATION.

During the 1960's, 400,000 of Colorado's 453,000 population increase settled in the nine counties of the Front Range, and more than half of this in the three counties around Denver. The Denver metropolitan area represents the largest population complex in the state, and its growth tends to be self-generating. This complex attracts the bulk of the new economic and population growth in the state, even to the extent of causing migration from the rural areas within the state. Because of the location of most of the industry, schools, job opportunities and diverse cultural offerings, newcomers are attracted to the capital and to the opportunities of the largest city; industry is attracted to the labor pool and services; finance and services are attracted to the job opportunities of the state's largest complex; developers are attracted to the opportunities for land value appreciation; new governmental jurisdictions come into being, alongside old ones, to take care of the needs of new subdivisions and developments; new schools, roads and services are required to take care of the needs of increased population and the industry base.

On the other hand, rural Colorado, like much of rural America, has stagnated and is beginning to decay. Farm families live out their old age in quiet poverty or head for a new life in the city. They leave behind them empty homes and unplowed fields. As rural Colorado loses people, the aging of the remaining mix creates major social, political, and economic problems. The poverty in rural Colorado is a classic for all America. In the Denver metropolitan counties, the annual average per capita income is \$3,129; the figure for the balance of Colorado is \$2,152. Typically, the young people in rural Colorado continue to leave the farms to seek careers in the city. For the rural areas, this represents future disaster. Nevertheless, as a state, we continue to put our colleges "where the people are." We do the same with medical facilities, highways, cultural amenities, government services, and every economic aspect of our society. By example, we say to the young: "The jobs, money, education, and prestige are all in the city." In short, no jobs in rural Colorado will mean that no young people can stay there.

Size of community makes a difference, too. At a given point, a community becomes so small it cannot afford the price of police, fire protection, medical service, schooling, and other governmental services. Similarly, at a given point a community becomes so big that the per capita cost of services increases, so that economies of scale are lost.<sup>9</sup> This problem of "higher taxes" or "no service" is what economists call "diseconomies of scale."

Ironically, the policies of the federal government, as well as those of the state, point in the wrong direction. Aid to rural communities is

<sup>9</sup>Advisory Commission on Intergovernmental Relations, *Size Can Make a Difference*, September 16, 1970, Superintendent of Documents, Washington, D. C.

available for those of more than 25,000 persons.<sup>10</sup> Below that, a community is supposed to lack "economic vitality." Under this policy, only the impacted Front Range has communities of the size to qualify, yet many have already passed the point of diminishing returns in size. At this point, it costs more in taxes to provide water, build sewers, pave streets, provide police and fire protection, pay for education, and remain healthy. At the same time, crimes increase, pollution increases, and the problems of growth begin to outrun public revenues.

Coloradans can ignore the symptoms and pay the extreme price later, or they can take action now to cure the interlocked problems of rural stagnation and urban sprawl. Tax incentives and policy changes are needed if the trends are to be halted and turned.

The revitalization of rural Colorado alone will not solve the population problem nor preclude ecological disaster. However, avoiding the development of a metropolitan strip city along the Front Range corridor would be mutually beneficial to the impacted areas where growth has become counter-productive, as well as out-state Colorado, which needs vitality. To protect the environmental integrity of the state, population growth must be stabilized; to prevent its further decay, the revitalization of rural Colorado, accompanied by the limitation of metropolitan Denver's growth, must begin immediately. To do otherwise is to commit all Colorado to progressive sociological, economic, and ecological decline.

To these ends, the Commission recommends that the General Assembly enact a policy, with all possible incentives, of revitalizing rural Colorado, without stimulating in-migration.

Masses of people need not move in order to accomplish these goals. State and federal policies, coupled with tax incentives, could direct and redistribute the economy in an orderly manner. These measures should include:

1. Revision of Colorado's commerce and development policy,<sup>11</sup> to represent a philosophy of stabilization, not growth. Its purpose should be to channel industry which does want to move to Colorado to those parts of the state which need it. It should represent a policy of stabilization, rather than one of "selling Colorado."
2. Adoption of an industrial site-selection law, similar to Maine's, giving the State new controls over the location of new industry.
3. State governmental decentralization and relocation of state offices, institutions, and services.
4. Encouragement of federal government decentralization; for example, a "Durango" mint, instead of a new Denver mint.
5. Utilization of water policy to direct growth; for example, no further trans-mountain diversion to the Denver metropolitan area.
6. Statutory limitations on the size and growth of metropolitan Denver.
7. Tax and loan incentives to stimulate the rural economy.
8. State airport development outside the Denver metropolitan area.
9. Transportation system planning and development to direct growth.
10. Utility service distribution to direct growth.
11. Preservation of agricultural land.

<sup>10</sup>*Size Can Make a Difference*, cited above.

<sup>11</sup>Chapter 1-18-2, Colorado Revised Statutes, 1963.

RECOMMENDATION #7. A CONSERVATION TRUST FUND, SIMILAR TO THE HIGHWAY TRUST FUND, BE ESTABLISHED IN THE STATE TREASURY, WITH SPECIFIED STATUTORY INPUTS TO THE FUND AND WITH THE PROCEEDS OF THE FUND DEDICATED TO A STATE SYSTEM OF CONSERVATION AREAS.

The Colorado Highway Trust Fund operates as a single-purpose, constitutionally dedicated fund. There are monies from many sources, all dedicated to a single purpose: highway funding. There is no review of the appropriations by the General Assembly, the body constitutionally charged with the appropriation process. To assist in its overall operations, the Department of Highways has statutory condemnation authority.

In contrast to this method of funding for highways, the Commission was surprised to learn, principally through the Roxborough Park episode, that apparently the State sets aside no money on a regular basis for any state system of conservation areas. Moreover, the State itself seems to have no system of condemnation for public purposes other than highways, even though the agencies of the State, the counties and municipalities, do have such authority.

Colorado is a recreational state because of her natural attributes. We who live here are singularly blessed in that the national government has had the wisdom to set aside vast acreages of natural area as national park, recreation, and conservation areas. These areas now serve the entire nation. The State, however, has the responsibility to see that its own residents are served with a state system of recreation and conservation areas. At the present time, the State is deficient in this respect and far behind other states.<sup>12</sup>

The Commission urges the General Assembly to create a Conservation Trust Fund, as one of the basic structures in an environmental protective system for the future. The monies would be used for a state system of: parks and recreation lands; greenbelt and agricultural buffer zones to prevent sprawl; scenic easements; flood-plain parks, paths and trails; historic monuments; wild rivers and wilderness areas; wildlife habitats; ecological research areas; community open space around public works projects; and State matching of local initiative for similar purposes. Colorado at the present time has no such systematic conservation planning tool.

The Conservation Trust Fund should be created in the State Treasury and be administered by some such department as the Department of Natural Resources. The fund should have regular, statutory inputs such as: a fixed percentage of the General Revenue flow annually, or a fixed annual appropriation; grants from non-State agencies; conservation gifts and trusts; real-estate sales tax; the proceeds of the proposed constitutional sweepstakes measure, if it passes; special legislative appro-

<sup>12</sup>Division of Game, Fish and Parks, Colorado Department of Natural Resources, *1970 Colorado Comprehensive Outdoor Recreation Plan*.

priations for specific conservation purposes; the proceeds of an abandoned-and-unclaimed property enactment; special bond issues; mandatory State-collected sales tax with returns to local areas; user fees; and other similar monies. The department administering the fund should have condemnation authority, in accordance with standards for such authority already well established in the law; and requests for expenditures from the fund should have the approval of the Governor.

We urge the establishment of this basic conservation planning tool for the future no later than the coming General Assembly session.



RECOMMENDATION #8. THE GENERAL ASSEMBLY PROVIDE FUNDS FOR STUDY OF A FRONT RANGE RECYCLING SYSTEM AND THE MARKETING OF THE PRODUCTS DERIVED THEREFROM, WITH FIRST STUDY EFFORT DIRECTED TO THE FEASIBILITY OF COMBINING A FRONT RANGE COLLECTING, RECYCLING, AND POWER GENERATING SYSTEM WITH A REGIONAL TRANSPORTATION SYSTEM.

When it comes to the production of waste, Coloradans are no exception to the average. Per capita yields of solid waste in metropolitan areas range from 4 1/2 to 6 pounds per day per person. New codes have been created to meet the demands of citizens who are tired of trash blowing back in their faces or irritating and disagreeable odors smelling up the community. These codes and demands on the part of citizens have caused us to look into methods of solid-waste recycling as a means of disposal.

Our county and municipal disposal systems are, for the most part, in their embryonic stages of development and conversion. Essentially, they are trying to hide millions of tons of waste. Coloradans, along with their other fellow Americans, are rushing headlong into consumption of their natural resources. Our lifestyle has encouraged us to consume a portion and discard the unused portion to be buried with all other waste. By habit, man has been throwing away valuable waste materials. Now, by necessity, man must recover these assets before they are disposed of forever. We must, by some means, capture and redirect these by-products of our society to reuse, thereby reducing the primary consumption of our natural resources.

Recycling has benefits to the community other than the preservation of resources. Consider the economic value of the material we are burying. Each ton of the waste we are presently paying \$3 per ton to bury has, for example, about \$4 worth of recyclable paper, \$1.20 worth of cullet glass, \$2.20 worth of aluminum, and another 80¢ for other non-ferrous metals. This adds up to \$8.20 worth of paper, glass, and metals per ton. In the balance of this ton of material, there is approximately another \$1.75 worth of heat values, which would extend the value per ton to \$9.95.<sup>13</sup> If we add another \$2 per ton for the fee that the private contractor in Colorado is paying to the land-fill authority, we come up with about \$11.95 total value that could be realized out of each ton of the material we are now burying.

Private industry has not always experienced great profits from recycling. The cycling of paper or cardboard products and ferrous and non-ferrous metals has, for the most part, been economically advantageous.

<sup>13</sup>Herschel Cutler, "Role of Transportation in Disposal of Obsolete Metallic Waste"; and P. H. McGauhey, "State of the Art"; both in *Waste Age*, July 1970, Three Sons Publishing Company, Niles, Illinois; also M. J. Mighdoll, "Secondary Materials Industry Declares War on Solid Waste," *Waste Age*, September 1970, Three Sons Publishing Company, Niles, Illinois.

The recycling industry has found that one of the problems of power generation from solid waste has been finding a steady market or steady use for the steam or power produced. Regional mass personal transit requires a network of rights-of-way. Approximately the same network would be required for a regional solid-waste transportation system. Both systems serve the home; waste is produced where people live. Thus, a regional mass-transit system could provide the type of constant power requirement to justify a large investment in waste power-generation.

In a combined personal and waste transportation system, people could commute at their pleasure according to the posted schedules. During idle hours, the system would be used to transport solid waste from terminals in outlying areas to a central solid-waste recycling center, without conflict or offense to the passenger service. One of the biggest expenses to a mass-transit authority is the energy required to move the waste. This, of course, is the major contribution of the recycling system. The cost of the system would be amortized to the total tonnage of people and solid waste, rather than to only people or only solid waste. The compatibility and logic of such a system would be as follows:

1. Regional mass transit requires power; a solid-waste recycling system will produce power.
2. To be financially successful, a solid-waste recycling system requires a constant market; a regional transit authority or system requires constant power.
3. The biggest problem to a solid-waste recycling system is transportation of the waste from the source to the recycling center; the mass transit authority could provide this service. The common use of rights-of-way for passengers and waste disposal would be of great economic significance to the community.
4. A regional mass-transit authority will require revenue from every possible source; a recycling operation could provide approximately \$12 per ton gross revenue.

The Commission feels that the combining of personal and solid-waste transportation operations is worthy of a feasibility study by qualified parties, as the first phase of a new and unique approach to resolving these two major regional problems. The Regional Transportation District is already moving on their transportation planning cycle. It is urgent, therefore, that the 1972 session of the General Assembly act on this study, in order that the data be available to the General Assembly before Regional Transportation District plans are finalized.

RECOMMENDATION #9. THE GENERAL ASSEMBLY EXPAND THE AUTHORITY AND FUNCTIONS OF THE STATE WATER POLLUTION CONTROL COMMISSION.

The General Assembly has established the Water Pollution Control Commission as a water-pollution regulatory agency in the Department of Health. That commission has been doing an excellent job in cleaning up the waters of the state. In order to make their work even more effective, we recommend that the following additional authorities be provided to them:

1. Enforced establishment of sanitation districts in areas where septic-tank systems are numerous and malfunctioning:

Presently, the Water Pollution Control Commission has the authority, after a hearing, to designate areas as being unsuitable for septic-tank systems, but it does not have authority to force or encourage installation of municipal-type sewer systems.

2. Means to require consolidation of sanitation districts, where feasible and economical, into fewer and larger districts.
3. Establishment of a State sewage and/or industrial waste permit system;

Colorado is one of six states in the nation that does not now require a permit for discharges into streams or tributaries thereof. Such a permit system should greatly enhance our water-pollution enforcement program. A permit system should also provide a sufficiently severe penalty for non-compliance, in order to be effective; this penalty could be similar to the Corps of Engineers penalty of \$2,500 per day, or six months' imprisonment.

4. Certification of wastewater and sewage plant operators:

The Water Pollution Control Commission feels that every wastewater and sewage plant should be under the direction of a certified or licensed operator, in order to assure proper and efficient operation. It is recommended that the water-pollution control laws be amended to allow the Water Pollution Control Commission to appoint a certification board, whose duty it would be to examine wastewater and sewage-treatment operators for certification purposes.

5. Provide authority for the Water Pollution Control Commission to establish effluent standards:

Presently, the commission can invoke effluent standards only when stream standards are violated. Effluent standards would allow control of effluent at the source and would force the highest standards compatible with type of discharge and present control technology. Furthermore, the federal government is proceeding to prepare effluent standards for specific industries.

Once these federal standards are established, it is likely that states will be required to adopt similar standards in order to receive federal assistance for their programs.

6. Allocation of sufficient funds to underwrite sewage plant construction:

Colorado could have its Federal Sewage Construction Grant increased from 33% to 55% if the State also had a 25% grant program. With a 25% grant from the State and a 55% grant from the federal government, this would reduce the cost to the municipality to 20% of the total cost of constructing waste treatment facilities. In the coming years, it is estimated that construction of wastewater treatment facilities will average \$7.5 million per year. We recommend that the State allocate, over the next ten fiscal years, the \$1.875 million per year State money required to obtain the federal grants for this program.

All of the additional authorities described above have already been cited by the Federal Water Quality Control Administration as deficiencies in the Colorado water program.

RECOMMENDATION #10. THE GENERAL ASSEMBLY CONSIDER CERTAIN STRUCTURAL CHANGES WITHIN THE GENERAL ASSEMBLY ITSELF, TO ENABLE IT TO COPE WITH THE COMPLEX PROBLEMS OF THE FUTURE.

Legislative Goals Committee

The item which probably impressed the Commission more than any other during its deliberations was the observation that the State seems to be losing control of its own future. There are detectable and ominous trends, about which the State seems unable to do anything. Prime agricultural land, for example, is being converted to non-agricultural uses. The agricultural industry itself, the state's second largest industry, is in grave danger of being relegated to a minor role in the state's economy within the foreseeable future, due to the conversion of agricultural water rights to municipal water rights. The bulk of the state's population is being concentrated into a small fraction of the state's usable area, causing unprecedented pollution problems. There are many similar examples of our seeming inability to control the forces shaping the state's future.

Coupled with this observation, and related to it, is the seeming absence in our state governmental system of any permanent goals-setting mechanism. Persons running for elective office occasionally state their personal goals to the electorate; elective officials, while in office, influence the course of government through their personal philosophies; some statutes carry legislative policy as a guideline to executive action; some statutes delegate policy-making to executive agencies; and there are various other ways in which goals are implicit in the system. Most of these existing mechanisms, however, are transitory in nature and give little permanent direction to our governmental effort for the future.

Colorado may be getting close to the point where it is ready for a full-time legislature, where elected representatives would be in session for part of the time and engaged in bill-writing research the remainder of the time. In the absence of a full-time legislature, the Commission feels that one answer to regaining control of the future would be a permanent, statutory Legislative Goals Committee in the General Assembly, perhaps similar in structure to the Joint Budget Committee. Its mission would be to continually guide the direction of Colorado's future by setting statewide goals, seeing that such goals are incorporated into statutory policies and criteria, and monitoring the execution of the goals within the executive branch. Such a committee should be composed of legislators, who have the primary responsibility and prerogative for statutory goals and policy, with possibly the Governor and some of his key administrators as ex officio members. The committee could call upon citizens, executive-branch advisors, and outside experts for testimony, and could conduct public hearings on statewide goals. The committee should have a permanent staff director and a small research and administrative staff of its own; both the Legislative Council and the Legislative Drafting Office are far too busy to take on these additional tasks. It should come into being on approximately April 1, 1972, and attempt to have certain goals discussed and adopted by the 1973 session.



Coloradans must participate in the decisions as to the type of state which Colorado will become. The Commission feels that a Legislative Goals Committee is indispensable to any participation by Coloradans in the control of their own future. In the absence of a mechanism such as this, Colorado will become more and more buffeted by outside forces of change and less and less able to effect any control over its own destiny.

#### Joint Legislative Committee on Environmental Policy and Planning

In addition to a permanent Goals Committee, the General Assembly may wish to consider the formation of a Joint Standing Committee on the Environment. The environmental problems of the future will be extremely complex and may require concerted attention by the two houses of the General Assembly.

An alternative to this proposal would be a new, permanent Standing Committee on the Environment in each house.

#### Environmental Impact Notes

The General Assembly may wish to consider also a legislative procedural requirement for environmental impact notes to be attached to all bills with potential for affecting the environment. Such a procedure, if enacted, could be carried out by either the Goals Committee or the Joint Legislative Committee on Environmental Planning and Policy mentioned above, or by the Environmental Quality Council or Commission suggested in Recommendation #1.

RECOMMENDATION #11. COLORADO ADOPT A CONSTITUTIONAL AMENDMENT PROVIDING FOR A RIGHT TO A HEALTHFUL ENVIRONMENT.

Policy guidance for the judicial branch of government, under our system of institutional arrangements, comes first from the written constitution and secondly from the enacted statutes.

Our Colorado State Constitution provides specifically for the right to property. An entire body of statutory law and judicial interpretation has been built around that right. Almost all of our states have similar rights built into their constitutions. The notion that property, even though in private hands, might be so misused as to constitute a threat to societal environmental health and ecological balance in places far remote from the scene of the misuse is relatively new in our experience. At least eight of our states,<sup>14</sup> and Switzerland,<sup>15</sup> have considered their experience with uncontrolled environmental impact so important that they have changed their constitutions to include environmental protection clauses.

The Commission recommends that the General Assembly propose to the people a constitutional amendment providing for a right to a healthful environment. Such an amendment would juxtapose environmental rights equally alongside property rights for policy guidance to the judiciary. Where the two rights come into conflict with each other, the courts would have to balance the interests. A body of law would gradually come into being relating to this adjustment of conflict and balancing of interest. Adoption of such a constitutional amendment would provide Coloradans with a means for a careful and orderly interpretation by the courts of how environmental rights and property rights are to be adjusted to each other in the future.

<sup>14</sup>New York, Illinois, Pennsylvania, Rhode Island, Michigan, Virginia, California, and Massachusetts.

<sup>15</sup>Cited in Bureau of Outdoor Recreation, Department of the Interior, Denver, Colorado, *Mid-Continent Memo*, August 23, 1971.

