Reclamation's Challenge

It is my pleasure to open this afternoon's session with a discussion of Reclamation's challenge to expand the concept of Federal investment in water and land resources development to meet more effectively the changing goals and priorities of our society. Let us briefly review some pertinent background.

The need for continued investment in water and land resources.

President Nixon said in his recent message on population that:

"In 1917 the total number of Americans passed 100 million, after three full centuries of steady growth. In 1967, just half a century later, the 200 million mark was passed. If the present rate of growth continues, the third hundred million persons will be added in roughly
a 30-year period. This means that by the year 2000, or shortly thereafter, there will be more than 300 million Americans. .... We have thus had to accomplish in a very few decades an adjustment to population growth which was once spread over three centuries. It now appears that we will have to provide for a third hundred million Americans in a period of just 30 years.

"The great majority of the next hundred million Americans will be born to families which looked forward to their birth and are prepared to love them and care for them as they grow up. The critical issue is whether social institutions will also plan for their arrival and be able to accommodate them in a humane and intelligent way. We can be sure that society will not be ready for this growth unless it begins planning immediately. And adequate planning, in turn, requires that we ask ourselves a number of important questions.

"Where, for example, will the next hundred million Americans live? If the patterns of the last few decades hold for the rest of the century,
then at least three quarters of the next hundred million persons will locate in highly urbanized areas. Are our cities prepared for such an influx? .... Are there ways of fostering a better distribution of the growing population? .... What of our natural resources and the quality of our environment?"

Continuing with the President's theme, we in Reclamation might ask ourselves such questions as: Will our food production be adequate? Where will people go for recreation? How will our cities and communities obtain adequate water and power supplies?

Over the next half century, population growth in the Western States will exceed the national rate of growth by 25 percent. The increase is projected to be from 60 million in 1965 to over 160 million in 2020, an increase of 167 percent.

Disposable personal income in the United States has been growing rapidly and is projected to increase 46 percent in just seven years/from $589 billion in 1968 to $859 billion in 1975.
Some of the greatest increases in both population and disposable personal income will occur in arid regions of the Western States. This can reasonably be expected to influence substantially the nature of the future demand for water resources investments. Municipal and industrial water requirements in the Western water regions are projected to increase almost 700 percent from 7.8 trillion gallons in 1965 to 62.1 trillion gallons in 2020. Much of this increase will take place in urban areas far removed from potential supplies, which are already experiencing extreme water shortages.

The Water Resources Council, using 1959-61 as a base, estimated that by the year 2020 food crop production must be 2.6 times as much as in the base period and livestock production must be 2.7 times the base amount. These large increases in food output will be required despite reductions in cropland from 458 million to 408 million acres. The Council predicted that the required increases in food production would be achieved partly through
technology and partly through irrigation, drainage and flood control to develop high quality cropland.

Water withdrawals for irrigation in the Western region are projected to increase from 117 million acre-feet in 1965 to 160 million acre-feet in 2020. Although total cropland is expected to decrease, irrigated land is expected to increase by about 14 million acres in the Western water regions over this period.

Hydroelectric power development will continue to grow at a moderate rate. Total energy consumption in the United States has been growing at an average rate of about 3 percent per year. By 1985 total energy consumption will be 79 percent greater than in 1968.

Providing adequate recreational opportunities has become a major national concern in the past decade. About 90 percent of all Americans participate in some form of outdoor recreation. However, many do not have access to an adequate variety of recreation areas, and many of our national parks and our urban recreation areas are overcrowded.
Population growth, higher disposable personal income, more leisure time, and greater mobility will all add tremendously to the recreation demand of the future. In 1965 some $79 billion was spent on recreation or was recreation oriented. In 1960 Americans participated in 25 major outdoor recreation activities on 8.1 billion occasions. Participation in these activities is projected to increase to 29.8 billion occasions annually by the year 2000.

Thirty-two percent of the visits to Federal recreation areas were to Department of the Interior areas in 1965. Water provides the central focus for outdoor recreational activity. Recreation use of Reclamation reservoirs has increased 154 percent since 1958 when we first began to publish statistics on this function.

Considering the apparent need for continuing public investment in land and water resources development, what has been the record of Reclamation construction investment in recent years?
The fiscal year 1969 appropriation for Reclamation construction was $196 million—$46 million less than 1968, and $93 million less than in 1964.

In constant 1958 dollars, the fiscal year 1969 appropriation was $156 million, the lowest appropriation for construction since 1958. Based on constant dollars, the average construction appropriation during World War II was only 20 percent less than the 1969 appropriation and the average appropriation during the Korean War was 73 percent greater. Since 1965 when troop commanders were first authorized to order United States troops into combat in the Vietnam conflict, the average construction appropriation has been 32 percent greater than it was for the fiscal year 1969.

As a percentage of total Federal budget outlay, Reclamation construction appropriations have never been a significant item. The fiscal year 1969 Reclamation construction appropriation was 1/10 of 1 percent of the total Federal budget outlay.
Since 1940, the only two years that Reclamation construction has been a lesser percentage of the Federal budget than in 1969 were 1944 and 1945. In fact, compared to 1969, Reclamation construction appropriations as a percentage of total Federal budget outlay averaged 10 percent greater in World War II, 270 percent greater during the Korean War, and 60 percent greater during the past 5 years of the Vietnam conflict.

Compared to the Gross National Product in 1969, the Reclamation construction appropriations will be about 2/100 of 1 percent of the total Gross National Product (.000021). The fraction of Gross National Product represented by Reclamation construction appropriations averaged 80 percent greater during World War II, 230 percent greater during the Korean War, and 40 percent greater than the average of the past 5 years of the Vietnam conflict.

Here are some other good insights into our present situation. An article in the Wall Street
Journal of September 5 concerning President Nixon's announcement of a 75 percent reduction in Federal construction contracts said that "Savings of up to $300 million will be sought partly in such 'pork barrel' areas as Army Corps of Engineers and Reclamation projects." Senator Ellender who is the Chairman of the Senate Subcommittee on Public Works complained in a recent letter to President Nixon that "In spite of the fact that next to the air we breathe, water is our most precious resource, it seems the Bureau of the Budget first looks to the water resources program for a disproportionate share of any contemplated cuts whenever there is a need to reduce Federal expenditures."

There are two points I wish to leave with you from this review of our current funding situation. First of all, it is no surprise to this group that our present program, measured by any of the criteria I have just discussed, is at an exceedingly low level. Not the lowest it has ever been in the past 30 years, but very close to it. Secondly,
we have been kidding ourselves if we blame the paucity of our current appropriations entirely on the Vietnam conflict. Our current situation when viewed as a percentage of either total Federal budget outlay or Gross National Product is much worse than it was even during World War II or the Korean War.

You are well aware that the prospective 1970 budget is not likely to be any significant improvement over 1969. I have used the 1969 figures simply because 1970 data are not available yet for comparison.

Why is there such a great contradiction between apparent future need for water resources investment and current appropriations for Reclamation in the National scene? First of all, Reclamation is not a popular program. To the general public we have been labeled with the stigma of "pork barrel"; and as a "western only" program; we are accused of adding to "crop surpluses" when billions have been spent to support farm prices and retire cropland; and the public sees an apparent "subsidy"
involved in pricing irrigation water at less than allocated costs.

Some more examples of what our critics are saying come under the heading of environmental quality. The national movement for environmental quality has already achieved major significance and is likely to supplant economic criteria as the dominant concern of public policy in the 70's. Leaders in the movement for environmental quality are criticizing Reclamation projects as harmful to the environment in these areas:

1. Eutrophication of our lakes and reservoirs is increased by nutrient enrichment from irrigation drainage water.

2. Natural or "wild" rivers are destroyed by our dams and channelization which they charge, harm fish ecology and alter natural beauty.

3. Reservoirs gradually become laden with sediment.

4. Land may be permanently damaged due to salinity and soil erosion.

5. The salinity level of water supplies may
be increased by the concentrating effect of irrigation consumptive use and evaporation from our reservoirs.

6. Natural beauty is sacrificed by the construction of functionally adequate, but aesthetically unappealing structures. Examples are excavation spoil, unseeded canal banks, surface power lines, ugly buildings, and seepage areas which become cattail and mosquito infested swamps.

In addition to the relatively new concern for environmental quality, we are criticized from the more traditional economic standpoint. A group of agricultural economists from the University of Arizona who reviewed the Commissioner's paper on the "Role of Irrigation in the West's Expanding Economy" stated that his paper was an "embattled rationalization of a position." Some of the issues they raised are:

1. Reclamation's defense is based on past conditions rather than the relevant conditions of the present and future.
2. Cost-benefit analysis as practiced by Reclamation tends to emphasize all gains while tending to overlook efficiency losses including alternative means of achieving the same end and opportunity costs stemming from reductions in other public programs.

3. Why should the poorer present generation invest to produce lower cost food for richer future generations?

4. Irrigation development is an inefficient vehicle for achieving regional economic growth.

5. Future demands for municipal and industrial water can be met by transfer from agriculture with its relatively low marginal return to water.

Dr. Jack Carlson, Assistant Director of the Bureau of the Budget, in a recent speech before the Third Western Interstate Conference at Fort Collins, Colorado, stated that water resource development is at the "crossroads" and the time is ripe for reappraisal. Dr. Carlson summarized his
views by asking these questions about our water resources program:

1. Are we adequately preparing to meet the new demands for water, primarily for population centers and industry?

2. Does water development/complement rather than compete/with the new goals?

3. Can we adjust the "typical" design of projects to meet the emerging/new purposes for water development?

4. Does and should water resource development promote an equitable distribution of Federal expenditure?

5. How can we measure benefits more adequately?

6. How can we measure costs more adequately?

7. How can we ensure that project design and timing is efficient/economically as well as technically?

8. What changes should be made, if any, in water pricing, acreage limitation/for water rights during the decades ahead?

He notes in his speech the changing economic and social conditions in the country, the emergence
of more urgently needed and potentially more attractive domestic investments/other than irrigation projects, and he questions many of our present practices, particularly in cost-benefit analysis and water pricing. He concludes his list of questions with the statement: "As you know better than I, there are no easy answers, but answers we must have."

Again quoting Dr. Carlson, "Making water resource development fully responsive to the economic, social and political conditions of the future is a challenge we all face." This as I see it is the Reclamation Challenge. We must be more sensitive to the needs of today's society.

By this I don't mean to imply that we have been oblivious to the questions and criticism raised herein. On the contrary we have been well aware of them and have made honest attempts to provide objective, factual answers. The record reveals forcefully however that we have failed to stem the tide of adverse philosophy. In such circumstances we don't give up, rather we regroup, develop a new
tack and try again.

You have heard me say often that the Reclamation program is for the benefit of people -- that the construction of large, glamorous, awe-inspiring structures frequently has held the spotlight, but that such structures are not in themselves the end we seek -- merely the means to the end -- [which is to benefit people.]

Reclamation's future lies in true, regional, multi-purpose water resource development. Properly implemented, probably no other program in Government is or can be so greatly people-oriented and people-benefiting -- economically, socially, and culturally -- on a continuing, expanding, sustained yield basis. An added bonus results from the program's inherent flexibility to shift functional emphasis as time, conditions, and people require.

I'm confident that Reclamation has the desire, the imagination, the flexibility, and the ability to meet the challenge. However, we must generate a team effort to work out and carry out the specifics.
In the effort, we must point our sights consistently to policies, programs, and courses of action that are fully oriented/effectively and efficiently toward benefits for people - those now living as well as those generations yet unborn.

Benefits to people must not be limited to basic physical nor economic needs. Our future efforts must encompass human desires as well as human needs, and must recognize, evaluate, and consciously include/on a full partnership basis/under the multiple-purpose concept, the opportunities for social and cultural benefits that presently occupy such a large place in our national objectives and programs. This requires that more attention be given to the behavioral sciences.

In other words, we must reorient our program, our project justification criteria, and our project operations to maximize the contribution that water resource development can make in meeting the physical, desires as well as economic, social, and cultural needs and desires of people. Can we do it? Our future depends on it.