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# A Progress Report: State Implementation of EPA Guidelines on the Use of Population

[Progress Report].

## ERRATA SHEET

A misprint was made in printing the cover of this report. The title of this report should read:

A Progress Report: State Implementation of  
EPA Guidelines on the Use of Population Projections

This report was prepared by the Sierra Club, 530 Bush Street, San Francisco, California 94108 financed in part by a grant from the Environmental Protection Agency. The contents do not necessarily reflect the views and policies of the Environmental Protection Agency.

Should you have any questions concerning this report, please contact Cathy O'Connell, Environmental Protection Specialist on (202) 755-8056.

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SIERRA  
CLUB



530 Bush Street San Francisco, California 94108 (415) 981-8634

September 15, 1979

TO: Environmental Leaders, Activists on Population Projections,  
and Others

FROM: Judith Kunofsky, Population & Growth Policy Specialist  
and Project Director  
Donald Forman, Project Associate

One of the most important, and often ignored, influences on environmental decision-making at all levels of government is the population projection used. Projections are used to prepare clean air and clean water plans throughout the country, to calculate the size of a sewage treatment facility for which federal funding is available, to assess the need for and extent of highway expansions or mass transit, to evaluate costs and benefits of proposed water diversion projects, to project recreational needs and forecast energy demand.

Because the use of population projections can in some ways be self-fulfilling, they are important tools for those concerned about land use or growth policy.

The way projections are used can help solve - or aggravate - environmental problems. Construction of a sewage treatment facility can foster the paving over of prime agricultural land. The ensuing sprawl development can create new and worse air pollution and water pollution, and increase energy use. A water diversion project designed to meet "projected needs" can cause problems at the source of the water and in the basin to which the water is brought. A highway built to fill projections of automobile travel can take needed funds - and riders - away from mass transit.

Similarly, by shaping federal investment, the use of population projections can be a strong influence on the future of America's cities and towns: They can assist in economic changes which would not otherwise have occurred. They can help fund development in parts of an area which would otherwise have remained undeveloped or, conversely, help promote the revitalization of a city.

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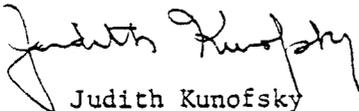
The fifty states are now in the process of implementing relatively new EPA guidelines on the use of population projections in its programs. The attached report is one of the results of a small grant from the Environmental Protection Agency to the Sierra Club to conduct a telephone survey of the states and let you know how well the process has been going. We have paid particular attention to how much and what kinds of public participation has been taking place.

Section 4.4 of the report describes opportunities for your involvement in the next few months.

The EPA process is also important because it may serve as a model for similar efforts in other federal agencies. The Office of Management & Budget and Department of Commerce are expected, this fall, to issue a proposal for the development and use of a consistent set of population projections in all federal programs which use projections in a funding formula. This is likely to involve not only EPA's pollution control programs, but also various transportation, water policy, and urban development programs (and others) throughout the federal government.

We are available to assist you in learning more about EPA's use of population projections and what your state has been doing. As a result of our telephone conversations, we have much more information about each state than we have been able to include in this report. We strongly urge anyone interested in becoming involved at the state level to contact us for assistance and additional ideas.

Finally, the Sierra Club publishes Population Report, a free newsletter that focuses on federal policy on the use of population projections and national trends in population growth. We would be happy to send it to you.

  
Judith Kunofsky

  
Donald Forman

Thanks to Annie Stine for the graphics and Marina Wadopian for production assistance.

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CHAPTER 1

INTRODUCTION

1.1 Sierra Club Involvement in Population Projections

1.2 History of the EPA Projections Guidelines

1.3 Objectives of the EPA Guidelines

1.4 Project Procedures

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## 1.1 SIERRA CLUB INVOLVEMENT IN POPULATION PROJECTIONS

For several years the Sierra Club has been interested in the use and abuse of population projections in federally-funded programs. The Sierra Club has sponsored a continuing program of training its members and involving them in the issue of population projections.

Projecting the numbers of people expected to live in a region and the distribution of their homes and jobs around the region is one of the important components of developing air and water quality plans. The numbers and their distribution affect transportation patterns and automobile use; the amount of water used in lawns and gardens; runoff problems associated with construction activities; the number of dry-cleaners and attendant air pollution; the amount of area covered by pavement and therefore possible problems with drainage of stormwater, etc.

In general, the higher the projection, i.e., the greater the population, the more difficult it is to meet any particular set of standards. This is because there are more people whose activities can produce pollution.

The distribution of population, though, is also very significant. For example, a population living in suburbia and commuting with automobiles to jobs would produce more air pollution per person and in total than if they were living more compactly and used buses, or if they commuted shorter distances by automobile.

In at least some cases in the past, communities used different projections for different purposes. This was not only confusing and a possible waste of money and duplication of effort, but also was not a good way to meet public needs: Use of different projections might direct growth in different ways, thus cancelling the impact of both the programs. Or one program may be using projections to calculate needs for certain public services, while another program causes growth to occur elsewhere in the community. Thus, the first program's efforts are not only useless but expensive.

In September, 1978 the Environmental Protection Agency (EPA) published guidelines that fundamentally changed the process by which population projections are developed for use in EPA's water quality and air quality programs.

Essentially, the change was as follows: In the past, whatever projection a community or its consultant prepared was accepted as reasonable. This "bottom-up" approach resulted in projections being used around the country which totalled several tens of millions more than the projected U.S. population for 1990 even under the highest fertility assumptions. Now, however, the process is more a "cascading" or "top-down" one: Each state has received a federally-prepared projection and all fifty sum to the Census Bureau's medium projection for U.S. population growth. The states have until October 1, 1979 to submit to EPA allocations of that projection for parts of the state. EPA funding for the construction of sewage treatment facilities and related planning efforts for air and water quality are then tied to those projections.

In spring, 1979 the Sierra Club wanted to inform its members of the status of state implementation of the population projections guidelines. EPA at that time did not have sufficient information on the states to enable this. The Environmental Protection Agency then agreed to give the Sierra Club a small grant to conduct a telephone survey of all fifty states to assess the status of the disaggregations in each state and provide that information to our members. It is our hope that this information will enable many more people around the country to become involved in the process.

In addition, the Sierra Club agreed to compile problems identified by the states in order to provide EPA with information which might further improve the process in the future.

This report is one of the results of that grant.

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This project has been financed in part with Federal funds from the Environmental Protection Agency under grant number T901018010. The contents do not necessarily reflect the views and policies of the Environmental Protection Agency.

This report has been prepared with a variety of audiences in mind. We are primarily addressing citizen activists around the country, whom we hope will become more involved in the development and use of population projections for their communities. We are also sending this report to each of the individuals in state governments whom we contacted. We hope that our compilation of suggestions for improving the process will be of use to the Environmental Protection Agency. Finally, in some ways the EPA guidelines are a "pilot study" of how such a process of developing national consistency in projections can work. The Office of Management and Budget and Department of Commerce will soon be proposing a similar system to cover all federal programs which use population projections in funding-allocation formulas. We hope that our observations and recommendations will be of use in demonstrating the strengths and weaknesses of EPA's approach and will therefore enable a federal-wide system to be a more effective and useful one.

## 1.2 HISTORY OF THE EPA PROJECTIONS GUIDELINES

The Federal Water Pollution Control Act Amendments of 1972 stated that the size of any sewage treatment facility built under the terms of the Act should

"relate directly to the needs to be served by such works, including sufficient reserve capacity. The amount of reserve capacity provided shall be approved by the Administrator (of EPA) on the basis of a comparison of the cost of constructing such reserves as a part of the works to be funded and the anticipated cost of providing expanded capacity at a date when such capacity will be required." (section 204(a)(5) )

The Act also required EPA to publish cost-effectiveness guidelines for conducting such an analysis, and to revise them at least on an annual basis. Guidelines were published, and a proposed set of amendments to those, incorporating many of the concepts currently being implemented, was circulated in mid-1976. Proposed amendments were then published in the Federal Register on February 4, 1977.

In 1977, Congress debated and passed amendments to the Act, now called the Clean Water Act. The House of Representatives proposed no change in section 204(a)(5). The Senate, however, proposed that federal funding be limited to facilities with reserve capacity for ten years in the future; interceptor sewers and "associated appurtenances" were to be funded 20 years into the future.

The Senate report stated that, "One purpose of this amendment is to concentrate available funds on correction of existing municipal problems" (emphasis added). Senator Muskie commented that the goal of the funds provided by the Clean Water Act "is not to finance the future growth needs of the United States." An Administration representative supported the Senate proposal, known as the 10-20 formula, citing the successful California experience in implementing such limitations and acknowledged that "Overbuilding has been a problem."



The Conference Committee version, which was integrated into the Clean Water Act, amended Section 204 (a) (5) to add the following to the section quoted above:

... at a date when such capacity will be required

"after taking into account, in accordance with regulations promulgated by the Administrator, efforts to reduce total flow of sewage and unnecessary water consumption. The amount of reserve capacity eligible for a grant under this title shall be determined by the Administrator taking into account the projected population and associated commercial and industrial establishments within the jurisdiction of the applicant to be served by such treatment works as identified in an approved facilities plan, an areawide plan under section 208, or an applicable municipal master plan of development. For the purpose of this paragraph, section 208, and any such plan, projected population shall be determined on the basis of the latest information available from the United States Department of Commerce or from the States as the Administrator, by regulation, determines appropriate....."

In compliance with this requirement, and following the ideas developed in the earlier published draft, EPA issued interim regulations implementing the Clean Water Act of 1977 on April 25, 1978. These included, in Appendix A, cost-effectiveness guidelines with a section on population projections, and went into effect June 26 of that year.

After a comment period, a final set of regulations for the Construction Grants Program was printed in the Federal Register on September 27, 1978. These contained the guidelines on population projections which are the subject of this report. A copy of the guidelines and the Federal Register discussion of comments received on the earlier draft is in section 2.5.

### 1.3 OBJECTIVES OF THE EPA GUIDELINES

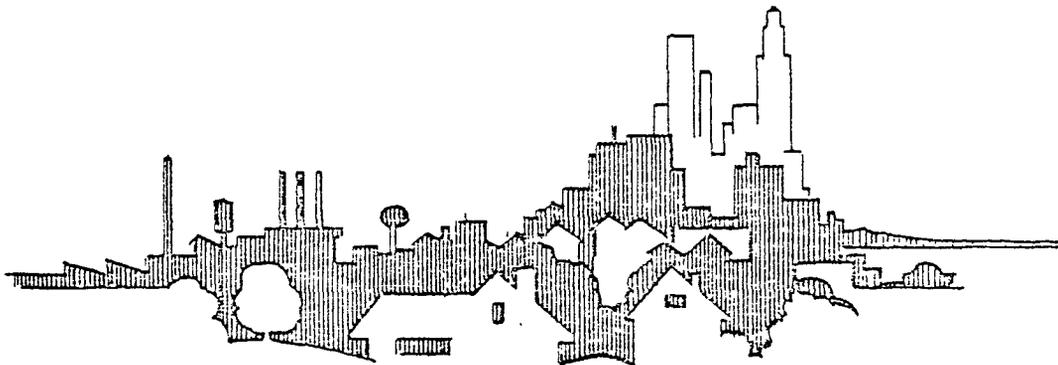
These guidelines appear to have developed over a period of years because of a variety of concerns:

- A. Congressional testimony that the total projections being used around the country was substantially greater than any reasonable projection of U.S. population, and that as a result substantial overbuilding was taking place.
- B. Concern in Congress and the Administration that the size and staging of municipal sewage treatment facilities be cost-effective, i.e. produce the most improvement in water quality per dollar expended:

To the extent that money is used for "reserve capacity" in one community, it is not available to solve current water pollution problems elsewhere.

To the extent that a facility is built which is too big, the community must bear the burden of excessive operation and maintenance costs, as well as its share of the construction costs.

- C. Concern that the wastewater treatment program could create new pollution problems by subsidizing sprawl and loss of agricultural land and aggravating air and water pollution - unless the solution is in scale to the problem being addressed.
- D. Concern reflected in the President's Urban Policy, of which these guidelines are a part, that federal programs help maintain the integrity of cities and towns.
- E. Complaints from a variety of sources that inconsistent projections are often used in a particular community among various EPA programs or among the programs of different federal agencies. In the former case, plans to meet air quality and water quality standards might be inconsistent. In the latter, federal programs might be using projections in such a way that the programs' effects do not reinforce each other.



#### 1.4 PROJECT PROCEDURES

Project staff consisted of Judith Kunofsky and Donald Forman who were based in the national office of the Sierra Club in San Francisco. Additional volunteers were involved in other states.

Staff first contacted each Regional Office of the Environmental Protection Agency and spoke with the individuals who are working the most closely with the states in complying with the projections regulations. We spoke with approximately 44 people in EPA. We asked for their most recent information on the state's progress in implementing the guidelines and for the name of their contact in the state.

We then called each of the fifty states, beginning with the person identified by the EPA staff. In some states, this person was the one with responsibility for implementing the process. In other states we were referred subsequently to various people until we found a person with responsibility for the projections.

We informed each state that we were preparing a report for our members on the implementation of the projections guidelines, and that we were looking for suggestions for improving the process.

We followed a prepared list of questions, adjusting them to fit the situations in particular states and omitting certain low priority questions in the interest of time. The state calls lasted between twenty minutes and one hour. Notes on the discussions were almost always retyped within twenty-four hours of the calls.

The project began on August 9. Phone calls were made during a six week period between July 16 and August 27. We spoke with approximately 70 people in the states.



## Disclaimers

We attempted to record our conversations with the states and to summarize them as accurately as possible. Because these were phone interviews, and because the states did not have an opportunity to review our summaries, it is possible we have misrepresented details of the situation in some states. Nonetheless, we believe that the overall picture we present in this report is an accurate one, representing the situation in each of the states as of the date of our discussions with them and as reported by the individuals we contacted.

In some cases we found that different individuals in one state gave very different accounts of the general process of preparing projections in the state and how the state was complying with EPA; therefore it is possible that for some states in which we spoke with only one person, the picture we received is not complete.

Furthermore, our conversations were with individuals who at times were undoubtedly expressing their personal opinions rather than official views of the states. Our discussion of suggestions for improving the process and general attitudes reflects a compilation of these individual views and should not be interpreted to necessarily reflect the official views of the states.

In many states the process of complying with EPA guidelines was nowhere near completed at the time of our discussions with them. The situation in particular states, then, may be different at the time of publication of this report than when our information was gathered.

Finally, the report includes stories of particular states and opinions of individuals with whom we spoke. Those opinions, although sometimes placed in quotation marks, are in some cases paraphrases. We attempted to retain the intent of the speaker while clarifying wording and grammar.

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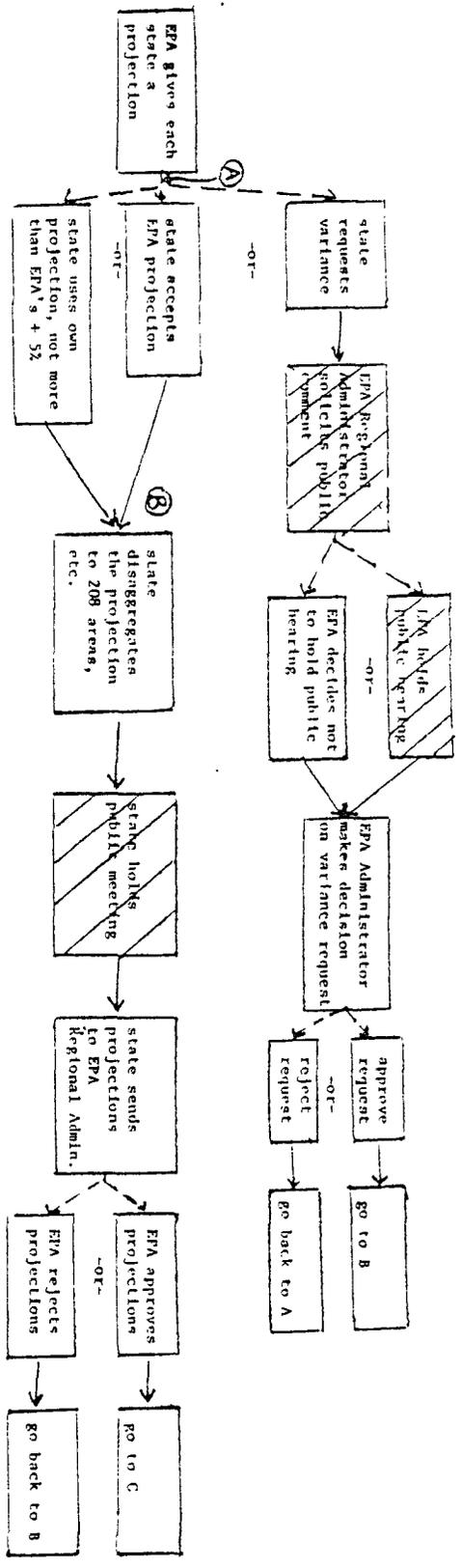
## CHAPTER 2

### THE EPA GUIDELINES ON THE USE OF POPULATION PROJECTIONS

The most "accurate" description of any set of regulations or guidelines is, of course, the original text itself. However in this case, where the guidelines are in small type and tersely written, a more leisurely explanation is certainly warranted. We here present, first, a two-minute version, the Federal Register discussion of comments received in response to an earlier draft, and then the text of the guidelines themselves.

- 2.1 A Two-Minute Version of the Guidelines
  - 2.2 A Ten-Minute Version of the Guidelines
  - 2.3 Further Questions
  - 2.4 Examples
  - 2.5 Discussion in the Federal Register and Text of the Guidelines
- 
-





2.0 FLOW CHART FOR THE EPA PROJECTIONS GUIDELINES  
 Specific Opportunities for Public Involvement marked with cross-hatching;

## 2.1 A TWO-MINUTE VERSION OF THE GUIDELINES

In the past, population projections were prepared by local governments or by consulting engineers preparing to build a particular sewage treatment facility for the local government. The population projection for the area to be served together with information and assumptions about per capita water use and expected industrial water use are used in a "cost-effectiveness analysis" which determines how large a facility should be built initially to maximize the benefit gained per dollar spent.

Under the Clean Water Act, a sewage treatment facility whose size is determined by such an analysis is entitled to have 75% of its construction costs paid for by the federal government. If the facility uses innovative or alternative technologies, the federal share of the cost can be 85%. A community can always build a larger facility as long as the additional construction costs are paid for in some other way.

The population projections that were prepared in this way totalled tens of millions of people more than even the high projection of U.S. population in the year 1990. Furthermore, they were often inconsistent with projections being used in EPA or other federal programs in the same community.

EPA's process is now a "cascading" or "top-down" approach. The Bureau of the Census prepares projections for the U.S. population. EPA contracted with the Bureau of Economic Analysis (BEA) to disaggregate, or allocate, the medium Census Bureau projection to projections for each of the states. Each state was sent this projection, and can either accept it or appeal. Then each state divides that projection into projections for so-called "designated 208 agencies" and other parts of the state such as counties. (Under Section 208 of the Clean Water Act, the Governor of a state can choose - i.e., designate - certain substate agencies to develop the clean water plans for their area. These agencies, which are sometimes regional planning agencies or counties, are often called "designated 208 agencies" or "208's". Similarly, Section 201 of the Act sets up the program of federal funding for construction of publicly owned sewage treatment facilities. Those facilities are sometimes called "201 facilities" and the areas they serve "facility planning areas" or "201 areas." )

Subsequently, each 208 agency or county will prepare projections for its cities, towns, and facility planning areas. The projections that come out of this process are the only ones which will qualify for use in determining how much federal funding is available.

Since the "reserve capacity" in a sewage treatment facility can be a major determinant of how much and when and where growth occurs in a community, it is important for the public to be involved.

## 2.2 A TEN-MINUTE VERSION OF THE GUIDELINES

### A. The EPA Projections for the States

In 1977, the Bureau of Economic Analysis in the Department of Commerce prepared a population projection for each of the states. They began with a projection for U.S. population prepared by the Bureau of the Census, also in the Department of Commerce. That projection, known as Series II, assumes an average family size of 2.1 children per woman and 400,000 net migration to the United States. That fertility rate is higher than the current level and the migration rate is lower. (See 2.3, Question K, for further discussion of the projection). The projection for the year 2000 is 265,078,000, which is a 20% increase over the 1979 population of about 220,000,000.

A draft projection was sent to each state for comment, but many states did not respond. Changes were made by BEA in response to the comments for many of the states. The revised projection was then sent to the states.

Although BEA will be releasing an updated set of projections in 1979 as part of its "OBERS" series of projections, those numbers do not replace the ones sent to the states for use in the EPA guidelines at this time.

The number each state was sent can be found in Appendix B, Individual State Reports.

### B. State Review of the EPA Projection

Each state must review this projection and has several choices:

1. The state can use the BEA projection, which we refer to in this report at the "EPA projection."
2. The state can use a projection which the state had already prepared as of 6/26/78 instead of the EPA projection as long as the year 2000 population projected is not more than the EPA projection plus 5% for the same year. The June 26, 1978 date was when the interim regulations had taken effect.
3. If a state wants to use a projection existing on 6/26/78 but which is more than 5% greater than EPA's or prefers any projection prepared more recently than that, it must get EPA agreement to do so. In the terms of the guidelines, the state must "request a variance."

Such a request, together with the justification, must be sent to the EPA Regional Administrator who will forward it to the EPA Administrator in Washington, D.C. However, prior to

making such a request, the state must issue a public notice of its intention to do so. The Regional Administrator of EPA must then "solicit public comments and hold a public hearing if important issues are raised about the State projection's validity." EPA regulations require a 45 day notice for a public hearing, which can be reduced by EPA to no less than 30 days if the longer notice "is not needed to encourage public participation " in that hearing.

### C. Disaggregating the State Projection

After it has been decided what projection the state will use, the state must prepare a "disaggregation" of that projection to parts of the state. A disaggregation is a division of a projection into projections for smaller geographical areas. It is sometimes called an "allocation".

The particular geographical areas in the state for which a projection must be prepared are described in the guidelines and depend on how the state is doing its water quality planning under the Clean Water Act.

The state must determine a population projection for each of the following substate areas:

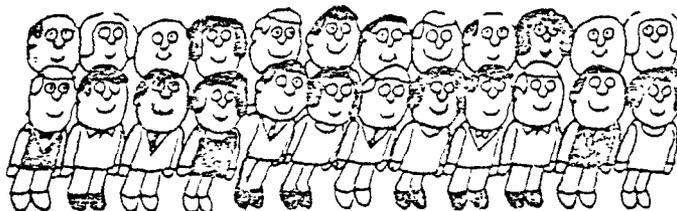
- a) each designated 208 agency (see section 2.1)
- b) outside designated 208 areas, for each SMSA (Standard Metropolitan Statistical Area) and "all non-SMSA counties or other jurisdictions." (see definition in 2.3H)

The sum of these projections must not exceed the state projection. It can be lower if the state wishes.

The state must prepare its disaggregations in consultation with air quality planning agencies, designated 208 agencies, and other regional planning agencies.

We have found that in some states the agency in the "lead" position is the one responsible for water quality planning; in some it is the agency which prepares population projections for the state; in others it is a more general policy or planning agency (see section 3.4).

The disaggregations must be submitted to EPA by October 1, 1979. However before the state submits them, the state must hold a public meeting on the subject. Federal regulations for the Clean Water Act require no less than a thirty day notice for a public meeting.



#### D. Comparing the Projections With Those of 208 Agencies

Many designated 208 agencies have already prepared projections. Some have been submitted to EPA in the past and in some cases approved.

The guidelines deal with the problem that the projection the state prepares for the 208 agency's part of the state might not be the same as that agency's own projection. We should note here that in some states the 208 agencies began with state-produced projections.

The guidelines allow the projections to differ in certain circumstances: "Where a designated 208 area has, as of June 26, 1978, already prepared a population projection, it may be used if the year 2000 population does not exceed that of the disaggregated projection by more than 10 percent.... If the 208 area population forecast exceeds the 10% allowance, the 208 agency must lower its projection within the allowance...."

Any such variances for these agencies are over and above the projection being used by the state for this process (see section 2.3 for further discussion).

This whole matter might, at first glance, seem superfluous. If a designated 208 agency already has a projection, why doesn't the state simply prepare its disaggregation to "give" that area of the state the number it is already using?

There are several possible reasons a state might not want or be able to do this:

1. The projection of the 208 agency may be substantially greater than a projection already prepared by the state which the state intends to use. This is not an uncommon occurrence.
2. The projections of all the 208 agencies taken together with the rest of the state may be substantially greater than the projection which the state wants to use or that EPA permits the state to use.
3. The state may want to project relatively larger populations for its non-designated areas (for whatever reasons) and may do so by preparing a disaggregation which gives the designated areas less than they have prepared.

These possibilities are discussed in greater detail in section 2.4 below.

#### E. Submitting the Projections to EPA

When the state's disaggregations are ready, the state must call a public meeting. EPA regulations require no less than thirty days notice for a public meeting.

Many states have combined these meetings with hearings on the 208 plans. Other have scheduled separate meetings. Still others, which already had projections developed separately from the 208 process believe they complied with the public meeting requirement in their initial development of those numbers (see section 4.3 for further comments and analysis).

The projections, revised if necessary, are then submitted by the states to EPA "as an output of the statewide water quality management process," i.e. the 208 process. In some states, those plans and the projections were submitted in draft or final form many months ago.

#### F. Using the Projections

After the projections disaggregations have been approved by the EPA Regional Administrator, they are supposed to be used in the following ways:

1. for future 208 planning
2. for future "needs surveys", conducted every two years by EPA
3. for the cost-effectiveness analysis, and then the size of a particular sewage treatment facility whose facility plans are "prepared under step 1 grant assistance awarded later than 6 months after Agency approval of the State disaggregations." (A step 1 grant is the first one awarded by EPA for developing the plans for a facility)

#### G. Projections for Facility Planning Areas

In some cases, the projections the state prepares will not be down to the level required for planning a particular facility. Timetables for preparing those projections are discussed in section 2.3H below.

#### H. Revising the Projections

The guidelines say that "State projections and disaggregations may be updated periodically in accordance with Agency guidelines."

### 2.3 FURTHER QUESTIONS

A. Do these guidelines prevent a community from building a larger sewage treatment facility or planning for more population growth than is in the projection that comes from this process?

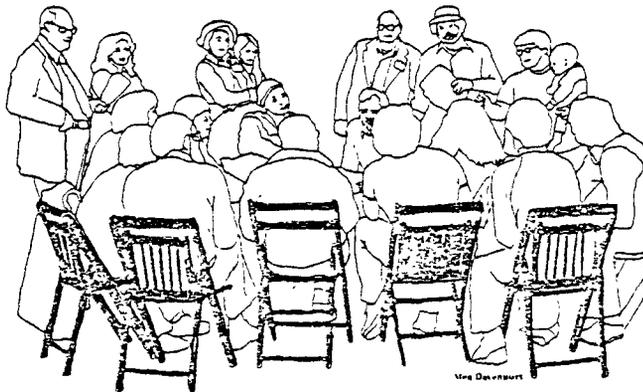
No. A community can build a larger facility if it pays for the additional capacity itself. Similarly, a community can plan for larger population growth as long as those larger projections are the ones used in its air quality and water quality plans. The guidelines are not restrictions on planning or on community goals, only on the amount of federal money available.

B. Does this process affect how much money each state gets for the Construction Grants Program, which funds sewage treatment facilities throughout the state?

No. The Clean Water Act Amendments of 1977 fix the amount of money, or rather the percentage of the appropriation, which is available to each state. The final population projection prepared under this process therefore does not affect the money available.

*The size of any particular facility, though, and therefore the relative distribution of money around the state, may be affected.*

Suppose, for example, that the state keeps the same priority list it had before, i.e. does not change its ordering of what projects it wants to build first. And suppose that the effect of the guidelines in that particular state is to reduce the population projections being used by local governments or planning bodies for this program. Then the effect of the guidelines on actual construction is that the state, with its fixed pool of federal money, can fund more facilities, each of which receives less federal funding.



C. What if a state prepares its population projection by aggregating (i.e. summing or adding up) projections prepared initially for substate regions?

The state still must submit any request for a variance from the state number first.

Quite a few states, including North Dakota, Nevada, New York, Montana, and Utah, are preparing their projections this way (see Appendix B).

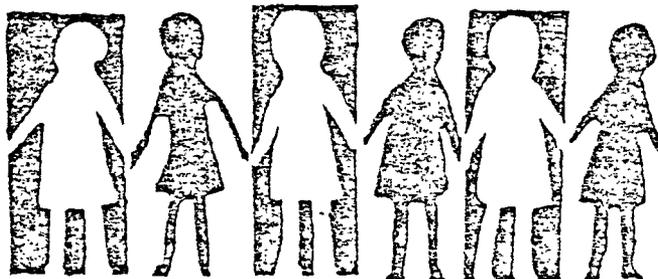
D. Are the state disaggregations supposed to reflect "trends" or "goals"?

The guidelines do not specify either, although at least one state mistakenly assumed that the disaggregations were required to be "trend" or "baseline" projections. In fact, several states are explicitly including established state goals in their disaggregations.\*

One of the problems with population projections is that equally qualified professionals could produce different population projections for the same geographical area; there is therefore always a policy decision to be made on whose projections are to be used.

E. Who decides in what circumstances a designated 208 agency is allowed to use the up-to-10% variance?

That decision, according to EPA, is made jointly by the state and the EPA Regional Administrator



\*See definitions and discussion in section 3.5.

F. Do the 10% variances available to designated 208 agencies have to be included in the 5% variance available to states?

No. The guidelines specifically say they do not: "Where a designated 208 area has, as of June 26, 1978, already prepared a population projection, it may be used if the year 2000 projection does not exceed that of the disaggregated projection by more than 10 percent. THE STATE MAY THEN INCREASE ITS POPULATION PROJECTION TO INCLUDE ALL SUCH VARIANCES RATHER THAN LOWER THE POPULATION PROJECTION TOTALS FOR THE OTHER AREAS." (emphasis added)

This is the most widely misunderstood provision of the guidelines (see section 2.4 below).

G. Can the state projection be more than 5% lower than EPA's?

Yes. The state's projection can be as low as it likes. The guidelines talk about the need for a variance only when the state's projection is higher than EPA's.

In fact, quite a few states have submitted or will be submitting projections lower than EPA's. See Appendix B for examples.

H. What must be done after October 1?

Paragraphs (4) and (5) in the guidelines describe what additional disaggregations must be prepared after EPA approves the ones submitted by October 1.

The specific reference to another deadline is in paragraph (6) which states that, "Facilities plans prepared under step 1 grant assistance awarded later than 6 months after Agency approval of the State disaggregations shall follow population forecasts developed in accordance with these guidelines."

Certain of the additional disaggregations are required (within designated 208 areas and within SMSA's which are outside 208's) while others are optional (outside both SMSA's and 208's). Projections in these latter areas need to be prepared only in conjunction with a particular facility plan.

(An SMSA, or Standard Metropolitan Statistical Area, is a metropolitan area containing at least one city - or twin cities - of 50,000 or more population, the county in which it is located, and any adjacent counties that are both metropolitan in character and socially and economically integrated with the central city. A list of SMSA's is prepared by the U.S. Office of Management and Budget.

I. How did the Bureau of Economic Analysis produce the state projections?

The Bureau of Economic Analysis (BEA) produces a set of projections called OBERS, an acronym for the names of the two agencies which originally had responsibility for the program. The 1972 OBERS projections were published in 1974 and included a consistent set of economic and population forecasts for economic areas, water resources regions and subareas, states, Standard Metropolitan Statistical Areas (SMSA's) and Non-SMSA portions of the areas. The next complete set is due in 1979.

For EPA, BEA updated its 1972 projections only at the state level. They used their economic model to project the state analogue of gross national product and used state trends to project per capita income. By relating the two, they developed a population projection for each state.

They did not do a demographic projection, i.e. one which looks at fertility and migration trends for the states. That is type of projections are prepared by the Bureau of the Census. The most recent set of Census Bureau demographic projections was released in October, 1978. Those projections are different from the BEA projections and are not involved in the EPA process. See also question K. below.

J. How does this process relate to the one which will be proposed by the Office of Management & Budget and Department of Commerce, which would apply to all federal programs which use projections in their funding decisions?

The EPA guidelines are a separate process. The proposals by O.M.B. and the Dept. of Commerce are not scheduled to appear in draft form in the Federal Register until fall, 1979 and the state projections in that process would not be available until perhaps 1981. If the OMB proposals are issued in final form, EPA might then need to revise its own guidelines to ensure consistency; however the EPA guidelines are in effect now and will remain so even if the OMB proposals are not issued in final form.

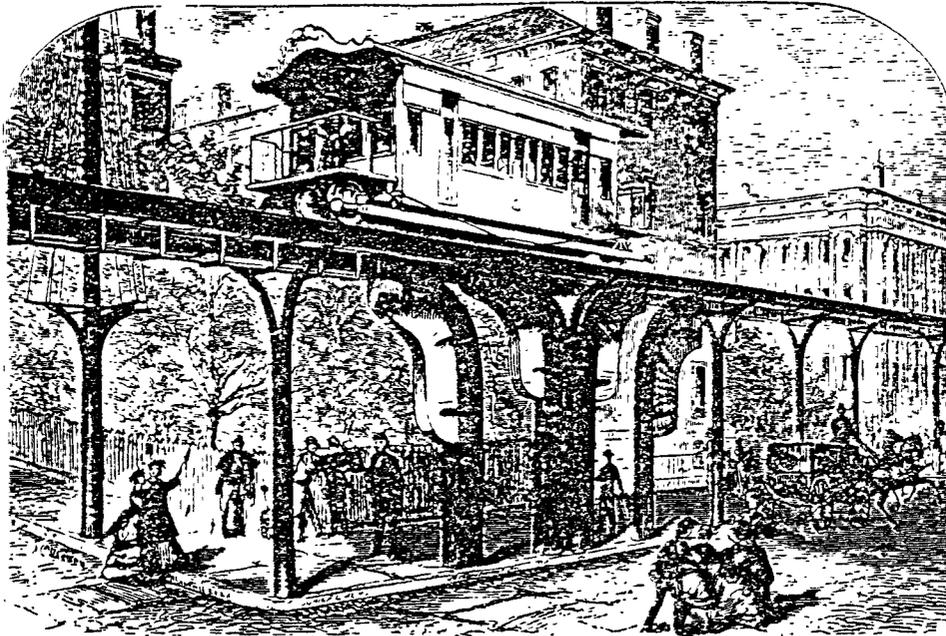
Of course, many people are looking at the EPA process as a pilot program of how such a nationally consistent system might work.

K. Is the projection BEA used the most recent projection for the United States.

Actually, it is not, but the differences are small. The Bureau of the Census medium (Series II) projection for the year 2000, issued in October, 1975, was 262,494,000. They updated the projection in July, 1977 and this most recent projection gives 260,378,000 for the year 2000.

The BEA projections were released in early 1977 and began with the earlier Census Bureau projection. However BEA also took account of the acknowledged undercount in 1970 of more than four million people. That explains why the BEA projection for the year 2000 is several million people greater than the Census Bureau's.

The projections above also include projections for the District of Columbia, which is not discussed in this report. The BEA lists a 7/77 population for the District of 690,000 and a year 2000 projection of 661,000.



## 2.4 EXAMPLES

### EXAMPLE A

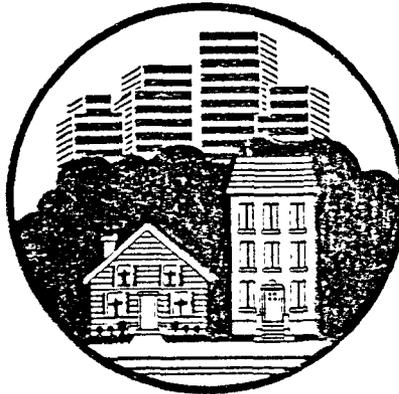
Suppose a state has one designated 208 agency, called Metro COG and exactly one other SMSA encompassing the rest of the state, called Greater Bigtown. Suppose that the projection the state has to use is one million for the year 2000 and that the existing Metro COG projection, being used in water quality planning, is 600,000 for that year.

Possibility #1: Give Metro COG exactly the projection it already has and give Greater Bigtown a projection of 400,000 for the year 2000.

However this may be unacceptable to Greater Bigtown, which itself may have a larger projection or want a larger one.

Possibility #2: Give MetroCOG 91% of its projection, namely 546,000. Then allow Metro COG to get a 10% variance. In other words, Metro COG can use a projection of  $546,000 + 54,600$  which is 600,600; Metro COG can now continue to use the projection it wanted. The state now can give Greater Bigtown a projection of  $1,000,000$  minus 600,600 or 454,000!

The state winds up being able to use a projection of  $600,000 + 454,000$ , or 1,054,000.



EXAMPLE B

Suppose a state is working with a projection of one million for the year 2000, as in Example A. But suppose the state now has two designated 208 agencies called Metro COG and Area COG and that everything else in the state is part of Greater Bigtown, an SMSA. Suppose that Metro COG and Area COG have been using projections of 500,000 each for the year 2000.

Clearly, the state can't produce a disaggregation with 500,000 each for Metro COG and Area COG because there would be nothing left for Greater Bigtown, not even the current level of its population.

Possibility #1: Suppose one of the designated 208 agencies has also prepared a population projection lower than the one they eventually chose to use for the 208 process. Give the 208 that projection and see if enough is left to satisfy Greater Bigtown.

Possibility #2: Give both Metro COG and Area COG 91% of their original projections, or 455,000 each. As in Example A, "give" each area its 10% variance, bringing them back to roughly 500,000 each. The state now has left to allocate 1,000,000 - 455,000 - 455,000, or 90,000. If this is acceptable to Greater Bigtown, the state's problems are solved.

If this is not acceptable to Greater Bigtown or to the state, for whatever reasons, the state has no choice but to

- a) give Metro COG or Area COG even lower projections
- b) request a variance of the state number from EPA.

Possibility #3: Suppose the state already has a set of projections for regions or counties, or perhaps several sets. If one set gives a total projection of roughly one million, the state could allocate population according to that projection. Or, if the state has county projections totalling, say, 1,200,000, the state could give each of the three areas under consideration 83% of the sum of their constituent counties' projections.



## 2.5 TEXT OF THE GUIDELINES AND DISCUSSION IN THE FEDERAL REGISTER

This section contains that portion of the Construction Grants Regulations in the Federal Register of September 27, 1978 which dealt with population projections.

In order are:

- \* cover page for the entire package of regulations
- \* two pages of introductory discussion
- \* three pages of discussion specifically on the public response to the earlier draft of the projections guidelines
- \* text of the guidelines themselves.

WEDNESDAY, SEPTEMBER 27,  
1978  
PART III



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**ENVIRONMENTAL  
PROTECTION  
AGENCY**

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**MUNICIPAL  
WASTEWATER  
TREATMENT WORKS**  
Construction Grants Program

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## RULES AND REGULATIONS

[6560-01]

## Title 40—Protection of Environment

CHAPTER I—ENVIRONMENTAL  
PROTECTION AGENCY

(FRL 951-8)

PART 35—STATE AND LOCAL  
ASSISTANCESubpart E—Grants For Construction  
of Treatment WorksAGENCY: Environmental Protection  
Agency.

ACTION: Rule.

**SUMMARY:** This is a conformed version of regulations governing the construction grants program for municipal wastewater treatment works. The substantial changes in the regulations serve several purposes. The majority of the changes implement amendments to the Federal Water Pollution Control Act (FWPCA or the Act) as amended, contained in the Clean Water Act of 1977 (Pub. L. 95-217 or the 1977 Act). The regulations also contain a series of technical amendments that make technical, administrative, and programmatic changes to facilitate administration of and participation in the program. The regulations incorporate certain requirements and incentives to implement the pretreatment program for industries contributing to municipal wastewater treatment works. To enhance public involvement in the program, the regulations add public participation activities in the development of State project priorities as well as in the approval of State-prepared population projections in the cost-effectiveness analysis guidelines. Cost-effectiveness analysis guidelines are completely revised to reflect provisions of the 1977 Act and other major policies. Finally, in response to Executive Order 12044 on improving government regulations, we have made numerous editorial changes to make the regulations more understandable.

**DATES:** These final rules are effective on October 1, 1978, unless otherwise specified in particular sections. They apply to grants (including subsequent related projects) awarded on or after that date. Comments on changes proposed to § 35.936-13 will be accepted until November 30, 1978.

**ADDRESSES:** Comments submitted on these regulations may be inspected at the Public Information Reference Unit, EPA Headquarters, Room 2922, Waterside Mall, 401 M Street SW., Washington, D.C., between 8 a.m. and 4:30 p.m., on business days. EPA-prepared summaries of the comments are also available. Comments on proposed

changes to § 35.936-13 should be sent (in triplicate, if possible) to Mr. Alexander J. Greene, Director, Grants Administration Division, Attention: PM-216-P "Subpart E," Environmental Protection Agency, 401 M Street SW., Washington, D.C. 20460.

FOR FURTHER INFORMATION  
CONTACT:

Michael B. Cook, Acting Director, Facility Requirements Division (WH-547), Environmental Protection Agency, 401 M Street SW., Room E1137D, Washington, D.C. 20460, telephone 202-426-9404.

**SUPPLEMENTARY INFORMATION:** Certain regulatory changes to implement the 1977 Act were published on April 25, 1978, in the FEDERAL REGISTER as interim final regulations. These included changes related to State priorities, grant eligible categories, land eligibility, user charges, industrial cost recovery, grants for individual systems, combined step 2 and 3 grants, training facility grants, Buy America, cost-effectiveness analysis and reserve capacity. We published these regulations as interim final and generally made them effective on April 25, 1978, because they implement provisions in the 1977 Act that were effective upon enactment and because they were necessary for ongoing administration of the program. Some of the technical amendments, which were published in FEDERAL REGISTER on June 2, 1978, as the proposed rules, made changes to the same sections. The provisions can be distinguished by reading the discussions in this preamble and referring back to the earlier FEDERAL REGISTER publications, where the regulatory changes are set forth section by section. The remainder of the regulatory changes that implement the 1977 Act were proposed on April 25, 1978, because, under the 1977 Act, they are not effective until October 1, 1978, or because their implementation was not crucial to the program's operation. These include provisions on innovative and alternative technologies, recreational, and open space uses, and the provision of assistance by EPA to grant recipients with respect to contracts.

EPA conducted extensive public participation activities in the development of these regulations. Prior to initial publication of any of the regulations in the FEDERAL REGISTER, EPA circulated four drafts of the regulations implementing the Clean Water Act. Also in the drafts were changes on pretreatment and public participation. We conducted numerous meetings to solicit public input. These included 4 days of open meetings in Washington, D.C., six briefings for State and local officials held at EPA regional offices, and meetings for EPA

advisory groups. Three meetings were held with State representatives appointed by the National Governors' Conference and by the Association of State and Interstate Water Pollution Control Agencies. Two meetings were held with the Association of Metropolitan Sewerage Agencies, two meetings were held with the Management Advisory Group, and presentations were made at the government affairs seminar of the Water Pollution Control Federation. We consulted representatives of Federal agencies informally. During this prepublication period of 4 months we received over 1,000 written comments from State, regional, and municipal agencies; environmental and special interest groups; and the public generally. We circulated one draft of the technical amendments to 1,000 organizations and private citizens before publication in the FEDERAL REGISTER.

On April 25, 1978, EPA published proposed and interim final regulatory changes to implement the 1977 Act, to modify pretreatment requirements, and to add certain public participation activities. On June 2, 1978, EPA published technical amendments to the construction grants regulations as proposed rules. After publication of the regulations, several environmental and special interest groups coordinated five areawide conferences on the regulations in Atlanta, Chicago, Dallas, Philadelphia, and San Francisco. These meetings were attended by 1,000 people.

During June, EPA regional offices conducted 14 public meetings to solicit comments. The EPA officials responsible for development of the regulations made presentations and answered questions. The regional offices encouraged participation by a combination of press releases, mailings and telephone contacts to interested and affected organizations. EPA officials directly responsible for the regulations met informally with representatives of other Federal agencies, environmental, and special interest groups. They also answered innumerable telephone inquiries about the regulations. EPA received over 250 comments on the April 25 regulations and over 45 on the technical amendments published on June 2. These comments and summaries are available for inspection at the EPA Public Information Reference Unit at the address listed above.

Using the comments received during and after the comment period, EPA revised the April 25 regulations. We mailed the revised draft to more than 930 groups, agencies and persons that commented on prior drafts. We received quick responses from various groups and considered their comments in preparing the final regulations. Besides the revisions to the April 25 reg-

ulations, the final regulations included both revisions to the technical amendments and editorial changes.

Altogether the Agency circulated more than 60,000 copies of various drafts of the regulations. We received invaluable assistance from the organizations, agencies, and the public at large. Commenters raised a variety of issues. The major issues raised during the official comment period are discussed below under the appropriate subject area.

Various related regulations have been or will be published soon. As required by statutory deadline, EPA published two short amendments to the construction grants program regulations early this year. On January 10, 1978 (43 FR 1597), fiscal years 1978-81 authorizations were allotted. On June 29, 1978 (43 FR 28202), we published a correction of the section number for the allotment regulation. It is § 35.910-8 in this conformed regulation. On February 23, 1978 (43 FR 7426), the reimbursement grant regulations (subpt. D) were revised to extend eligibility dates. On June 26, 1978 (43 FR 27736), EPA published final pretreatment regulations as 40 CFR part 403. Those regulations establish the responsibilities of Government, industry, and the public to implement national pretreatment standards to control pollutants that pass through or interfere with treatment processes in publicly-owned treatment works or that may contaminate sewage sludge.

On August 7, 1978, we published proposed regulations on public participation in the FEDERAL REGISTER (43 FR 34794). Those regulations implement section 101(e) of the FWPCA which requires EPA to provide for, encourage, and assist public participation in EPA programs. The regulations would replace 40 CFR part 105 (Public Participation in Water Pollution Control) and 40 CFR part 249 (Public Participation in Solid Waste Management) with a new 40 CFR part 25.

References to part 25 are inserted in this regulation in anticipation of publication of final public participation regulations. In the interim any reference to part 25 in these regulations should be interpreted as referencing the current part 105 regulations. The new part 25 would establish overall public participation requirements for programs under the Clean Water Act, the Safe Drinking Water Act, and the Resource Conservation and Recovery Act. The regulations, in addition, revise public participation requirements in 40 CFR part 35 subpart E, specifically for the construction grants program. They focus the public's attention on decisions made during the planning of the wastewater treatment facilities. They also provide the oppor-

tunity for public involvement in later stages of project development.

EPA published proposed regulations for the water quality management program in the FEDERAL REGISTER on September 12, 1978 (43 FR 40742). Those regulations replace 40 CFR parts 130 and 131 and portions of part 35 with a new 40 CFR part 35, subpart G. The regulations govern the water quality management program under sections 106, 208, and 303(e) of the FWPCA and include changes made to implement provisions of the 1977 Act. The regulations require a State/EPA agreement, which is intended to serve as the principal management tool for the water quality management program. The State/EPA agreement will integrate the planning, management, and implementation of all water quality management programs under the Clean Water Act, RCRA, and SDWA by fiscal year 1980. At a minimum, the fiscal year 1979 agreement shall cover programs authorized by sections 106, 205(g), 208, 303, and 314 of the Clean Water Act. The State/EPA agreement is distinct from the construction grant delegation agreements that may be negotiated under section 205(g) of the FWPCA, as amended by the 1977 Act. The water quality management (WQM) regulations coordinate the establishment of State and areawide WQM agencies' sewage treatment priorities with the construction grants priority system and lists. WQM plans are to provide certain facility planning related information such as planning area delineations, waste load allocations, and population projection disaggregations. Construction grant facility plans will have to be based on this information. Overall the WQM program regulations link that program and the construction grants program together much more closely.

On September 20, 1978 (43 FR 42251) we published in the FEDERAL REGISTER final regulations on State management assistance grants (subpt. F). They make funds available to States to manage the construction grants program and to hire and train staff needed to implement delegated functions.

From time to time EPA issues guidance and technical information to supplement regulations and to assist those participating and interested in EPA programs. A listing of information and copies may be obtained from the General Services Administration (SFSS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, Denver, Colo. 80225. (See § 35.900(c).)

Discussion of the regulatory changes being made are grouped by subject matter. Following the discussion of each subject area, the preamble identifies those sections in the regulations related to the subject areas that are

changed. For the technical amendments each section containing a change is discussed separately.

#### STATE PRIORITY

Sections 20 and 40 of the 1977 Act modified the policy and procedures applicable to State project priority planning and clarified the intent of Congress regarding the roles and responsibilities of the States in preparation of priority lists. These new provisions of the Act require several modifications to the procedures used by the States in managing their priority lists. Established priority rating and ranking criteria that are consistent with applicable guidance and these regulations need not be changed.

The 1977 Act gives the States exclusive authority to rank categories of projects. The categories specified in the 1977 Act are those used in the survey of the cost of needed publicly-owned treatment works (the needs survey) and have been defined in detail in previously published guidance for the survey. The regulations have been written so that no State is required to assign a different ranking to categories of projects, but it may do so on an optional basis.

States are expected to continue to use priority criteria based on the severity of the pollution problem, the existing population affected, and other related factors necessary to meet statutory requirements. All projects on the priority lists, including those benefiting from the setaside provisions, must be rated according to the priority criteria and subject to the management procedures contained in the approved State priority system. When preparing their priority lists, States must take into account the work completed by designated State and areawide agencies responsible for water quality management.

The legislative history of the 1977 Act indicates that State priority list planning and management must be closely linked to meeting unfilled treatment needs before other eligible treatment works may be funded. The 1977 Act specifically requires, with one exception, that only projects resulting in compliance with the enforceable requirements of the Act may be included on the State's priority list. Projects on the State list which do not meet this requirement are to be removed and alternate projects which do meet the requirements added to use available funds.

Several commenters on the regulations expressed concern that the section on State priorities was very long compared with the relatively short reference to priorities in the Clean Water Act. We believe that these comments result from a misunderstanding of the role of the priority system and priority

monitoring requirements. Still others concurred with the requirements as written. EPA has worded the regulations to allow considerable flexibility in monitoring so that local conditions can dictate the extent of the requirement within limits designed to ensure that minimum monitoring to protect the health of the community is required.

Concern was expressed that best practicable waste treatment criteria were not defined. These criteria are defined in chapter II of "Alternative Waste Management Techniques for Best Practicable Waste Treatment," EPA-430/9-75-013, MCD-13, under alternatives employing land application techniques.

EPA received recommendations that nonprofit organizations be deemed eligible for grants and for management of on-site systems. The Act allows award of grants only to "public bodies." Nonprofit organizations with the capability and authority to plan, design, construct, and operate treatment works for public purposes would be eligible to function in that capacity under agreement with the public body. If the nonprofit organization is constituted a public body under State law, it could qualify for consideration for a grant (e.g., a citizen's association which is officially constituted as a sewer district).

One comment asked what is a "number of individual units," is there a maximum number of individual units, and if there is a dollar ceiling for individual systems. There is no absolute dollar ceiling for individual systems; the law specifically states a minimum of "one or more principal residences or small commercial establishments." The maximum number of units would be established through selection of the appropriate alternative or unconventional technology for individual residences or clusters of residences. Under the definition elsewhere in the regulation (§35.915-1(e)), this technology would be applied in communities of 3,500 population or less, or highly dispersed sections of larger communities.

One comment referred to the statement that all individual systems qualify as alternative systems, yet the cost-effectiveness guidelines provision for the 15 percent cost preference for innovative and alternative systems does not apply to individual systems. The law specifically states privately owned individual systems must cost less than the cost of providing a system of collection and central treatment.

Other comments recommended more coordination between EPA and the Farmers' Home Administration (FmHA). Such coordination has already been initiated; FmHA's final decision on projects is often made pend-

ing EPA approval of a grant. In addition, coordination between the two agencies in areas such as joint applications, standardization of definitions of high-cost projects, and other streamlining of administrative procedures is proceeding under the aegis of a White House working group on rural water and sewer problems. This coordination also will be extended to other Federal agencies through this group.

One comment recommended extension of grant eligibility to bathroom fixtures and plumbing utilizing flow reduction technology. Congressional intent expressed in the legislative history is quite clear that commodes or associated plumbing are not eligible for grant funding. If eligible, administrative difficulties and costs would be very large.

EPA encourages the use of the facility plan to evaluate every feasible alternative for solution of the water pollution problem whether or not such a solution involves grant ineligible facilities or methods. Assistance in grants packaging, construction supervision, planning and initial training for operations and maintenance are all generally grant eligible.

There were several requests to define terms and concepts more specifically. This will be done in separate guidance to be issued at an early date.

Regulatory changes relating to individual systems are found in §§ 35.905-23, 35.917-1(b), 35.917-2(a), 35.918, 35.918-1, 35.918-2, and 35.918-3.

#### COST-EFFECTIVENESS ANALYSIS GUIDELINES AND RESERVE CAPACITY

**Background.** On February 4, 1977, EPA published in the FEDERAL REGISTER proposed guidelines to amend and supplement the Cost-Effectiveness Analysis Guidelines (Appendix A to 40 CFR, Part 35, Subpart E). That proposed revision was intended to provide for cost-effective sizes of and sufficient reserve capacity for wastewater treatment works and, at the same time, to avoid overdesign. Coverage included guidance and alternative procedures for forecasting growth of population, for estimating wastewater flows, for determining cost-effective construction staging periods, and for providing extra capacity beyond that determined to be cost-effective.

Most of the commenters on the proposed revisions, while agreeing in principle with the proposal, raised questions or suggested modifications that convinced the Agency several changes were warranted. Also, additional guidance was required to implement section 16 (Cost-Effectiveness) and section 21 (Reserve Capacity) of the 1977 Clean Water Act. Accordingly, the EPA revised the Cost-Effectiveness Analysis Guidelines to incorporate these changes, and on April 25, 1978,

published them as part of a set of interim regulations to implement the Clean Water Act. These interim guidelines were effective as of June 26, 1978. Commenters on the interim guidelines suggested revisions that convinced the Agency to make some additional changes.

**Innovative and alternative technologies.** Section 16 of the 1977 Act encourages the use of innovative and alternative wastewater treatment technologies by extending grant eligibility to such projects if the life cycle cost does not exceed that of the most cost-effective alternative by more than 15 percent. The Agency's interim guidelines called for using option 3 of the following options for calculating the cost-effectiveness preference:

1. Use the life cycle cost of the entire proposed waste treatment system as a base for calculating the cost difference;

2. Apply the 15 percent increase to innovative and alternative components (and other differing portions) as compared with corresponding portions of the least costly noninnovative alternative; or

Use, as a base, the entire proposed waste treatment system where the system primarily (more than 50 percent of its cost) involves innovative or alternative technologies. Should innovative or alternative components comprise 50 percent or less of the system cost, the calculation base would be that for option 2.

Some commenters have expressed a preference for option 2. The Agency does not concur because option 2 would be difficult to administer and would also restrict unnecessarily the number of projects qualifying for the 15 percent preference. The Agency has rewritten option 3 to state that all projects with alternative and innovative components will qualify for the preference, except for those in which alternative or innovative unit processes replace conventional processes in a treatment plant and account for less than 50 percent of the cost. This language represents a slight liberalization of option 3, allowing some additional projects to qualify for the cost preference. This revision also clarifies and simplifies the old language.

Other commenters noted that collection systems common to both the conventional option and alternative technology system should not be included in the calculation base. The Agency agrees and has modified the guidelines accordingly.

Another commenter noted that the 15 percent cost-effectiveness preference must be mandatory rather than permissive. Both the law and these regulations mandate a 15 percent monetary cost-effectiveness preference for all innovative or alternative projects

or components thereof that meet the Agency's criterion for such projects. However, this does not mean that the grantee must adopt an option featuring innovative or alternative technologies wherever their monetary costs are less than the 15 percent ceiling because nonmonetary factors must be taken into account as well.

**Discount rate.** The Agency considered raising the discount rate for evaluating proposed wastewater treatment works from that used by the Agency (currently 5 1/4 percent) to 10 percent. The former rate is used by the Water Resources Council (WRC) to evaluate the costs and benefits of water resources projects. EPA, as a member agency, adopted this rate in 1973 when it published the Cost-Effectiveness Analysis Guidelines (appendix A of Construction Grant Regulations), although the construction grants program is not covered by the WRC "principles and standards" for evaluating water resource projects. The latter rate (10 percent) is cited in Office of Management and Budget (OMB) circular A-94 for use in agency programs not covered by the WRC "principles and standards."

The 10-percent rate is believed to approximate the opportunity cost of capital. The "Opportunity Cost of Capital Concept" has the most theoretical economic justification for cost-effectiveness analysis. This concept suggests the proper discount rate to use for public investment projects should be based on the rate of return to private sector investment (before taxes and adjusted for inflation). This is because resources used for public investment have alternative uses in the production of private commodities which society foregoes for the sake of the public investment.

Use of the 10-percent discount rate would help produce a more economically efficient distribution of construction grant funds. The expected result is that the optimal (cost-effective) staging period (the number of years for which the treatment plant is designed to handle a community's growth in terms of sewerage discharge) will decrease from about 10-20 years to about 9-16 years. These shorter staging periods will result in slightly smaller treatment works and in smaller initial treatment expenditures for each proposed treatment system. This should permit a somewhat greater number of treatment systems to be funded.

Despite these considerations, the Agency has decided against raising the discount rate to 10 percent. The higher discount rate would have the effect of lowering the total present worth cost of facilities with high operation and maintenance costs in comparison with the total present worth

cost of capital intensive facilities with low operation and maintenance costs such as land treatment and energy recovery facilities. This could largely offset the 15-percent cost-effectiveness preference given to such measures under the 1977 Act and these guidelines. It would also run counter to the President's recent decision to retain the existing discount rate for water resources projects.

Many commenters representing a wide variety of interests opposed increasing the discount rate (only one favored such action) primarily because such actions would tend to disadvantage capital intensive land treatment and energy recovery alternatives and would favor operation and maintenance cost intensive options.

The Agency has decided to retain the WRC discount rate (currently 5 1/4 percent) because this rate is consistent with the President's water resources policy and the net programmatic advantages, if any, of increasing the rate are not of overriding importance.

**Cost escalation.** Several commenters advocated use of a salvage value for land higher than the prevailing market price as required in the interim guidelines because of the very high rate of land value appreciation. The Agency has analyzed farmland value appreciation since 1960 and since 1970 and has compared these rates with cost escalation rates for construction, energy and labor. The analysis showed that land values over both the 17-year and 7-year periods have escalated roughly 3 percent faster than costs associated with construction or operation and maintenance of a treatment works. On this basis, the final guidelines will require, in the calculation of land salvage value, a land appreciation rate of 3 percent compounded annually, unless the grantee justifies a higher or lower percentage based upon historical differences between local land cost escalation and construction cost escalation. This allowance represents the estimated difference in rates between land cost appreciation and the cost escalation of goods and services related to construction.

Several commenters suggested escalation of energy, chemical, and labor costs in the cost-effectiveness analysis to account for anticipated high increases in these costs. It should be noted that the cost effectiveness analysis procedures call for use of constant dollars based on prevailing market prices at the time of the analysis and a low discount rate which is less than the inflation-free rate based on the opportunity cost of capital concept. This approach, rather than implying no future inflation, simply assumes that the costs of all resources involved in treatment works construction and operation will increase at about the same

rate on a long-term basis. The results of the cost-effectiveness analysis would be distorted, however, if the prices of certain resource inputs changed significantly over the planning period in relation to the prices of other resources. The Agency has analyzed historic data on wastewater facility construction price indexes and on prices of various operation and maintenance components, including labor, electricity, chemicals, coal, petroleum distillates, and natural gas. We also reviewed projections of future energy use prepared by the Department of Energy. Only the historic and projected increase in natural gas prices were found to significantly exceed (by nearly 4 percent) those for construction and the average of other operation and maintenance elements. Thus, the Agency has revised the guidelines to require escalation of relative natural gas prices over the planning period at a compound rate of 4 percent annually, unless the grantee justifies a higher or lower percentage based upon regional differentials between historical natural gas price escalation and construction cost escalation.

**Reserve capacity.** The Clean Water Act requires the Agency, in determining the amount of reserve capacity eligible for a grant, to take into account the projected population presented in a facility plan. The population must be based on the latest information available from the U.S. Department of Commerce or from the States as EPA determines appropriate. The interim guidelines called for population forecasts in facility plans to be based upon disaggregation of State population totals already developed by the Department of Commerce. Several commenters, principally 208 planning agencies, oppose this approach and contend that population forecasting is a policy matter that should best be addressed by local governmental units. Others, principally environmental groups and individuals, favor the disaggregation approach as a means of preventing excessive capacity and resultant secondary impacts.

The Agency believes the disaggregation approach should be retained because, to avoid providing excessive reserve capacity, forecasts of population and economic activities for individual small areas such as facility planning areas or designated 208 areas should be reasonably consistent with State and national projections. This approach is consonant with the President's urban policy intended to revitalize cities and discourage urban sprawl. The guidelines permit inclusion of extra capacity in a treatment works at the expense of the grantee to accommodate local growth policies. The final guidelines allow reasonable departures

from the Department of Commerce State projections and their disaggregations to designated 208 areawide planning areas, where the State or designated 208 agency has already prepared projections. The final guidelines permit use of State projections already prepared by the State if the year 2000 State projection does not exceed that of the Department of Commerce projection by more than 5 percent. The Administrator may approve State population projections that exceed the Department of Commerce projections by more than 5 percent if justified by the State. Where a designated 208 agency has already prepared a population projection for its area, it may be used if the year 2000 population does not exceed that of the disaggregation, based on the Department of Commerce projection, by more than 10 percent.

One State suggested allowing a State prepared population forecast to exceed the Bureau of Economic Analysis forecast by 10 percent without justification. The Agency does not concur because the present 5-percent departure is substantial. Also, since the State may increase its total after the 208 agencies have received their variances up to 10 percent, the total final State departure from the Bureau of Economic Analysis projection may already approach 10 percent or even more in some cases. Another State commented that States already having policies of disaggregating State totals among counties, even within designated 208 areas, should be allowed to continue to do so. The Agency agrees and has included such a provision in the final guidelines.

One commenter has suggested that population projections in 201 and 208 plans should no longer be wedded to existing zoning ordinances, which may be exclusionary and forbid immigration by lower income people. Instead he suggested that future population and the resulting reserve capacity for grant funded projects should rely on regional population projections and, in particular, regional allocations of low- and moderate-income apartment units. The Agency cannot fully comply with this suggestion because it believes that zoning and land-use decisions should be left primarily with local governmental units, and decisions on cost-effectiveness should be based on total and not partial population projections in an area. However, these regulations require the local population projections for 201 plans to fall within ceilings based on disaggregation of State and regional population totals.

Several commenters advocate a much more flexible population forecasting approach by permitting use of population projections other than the Bureau of Economic Analysis. The

Agency does not concur because use of various projections would be inequitable and would lead in many instances to funding excessive reserve capacity to accommodate growth.

One commenter stated that the population disaggregation approach is too simplistic for interstate metropolitan areas where factors influencing population change go beyond State boundaries. The Agency concedes that such situations may pose difficult forecasting and disaggregation problems. Nevertheless, the Agency believes the interstate disaggregation problems can be worked out through consultations among the concerned States, designated 208 agencies and other regional planning agencies.

Some commenters pointed out the need for public involvement in the review of the State population disaggregations. The Agency agrees that the public should have an opportunity to review and comment on the disaggregation before Agency review. Accordingly, the final guidelines now require the State to hold a public meeting on its disaggregations before submitting them for Agency review.

The Agency believes that the same population projections should be used for both air and water quality planning. Appendix A now requires, as an initial step toward implementing this objective, that States, when disaggregating total State population, consult with organizations of local officials responsible for water quality and air quality planning. In many instances the organizations certified by Governors pursuant to section 174(a) of the Clean Air Act to do air quality planning are also 208 agencies.

Some commenters have objected to the per capita flow limitations of 60-80 gallons per capita per day (the second method of estimating wastewater flows) as being unrealistically low. The Agency believes that such dry weather base flow allowances are adequate for smaller communities where flow data are lacking. These allowances exclude infiltration and inflow. Residential wastewater flows nationwide average only 45 gallons per capita per day. Other commenters favor increasing future per capita flows over time. They contend that increasing per capita flows have been observed during the past 10 years and that with increasing affluence this trend will continue. The Agency agrees that per capita water usage and wastewater flows have increased in the past but believes that this trend is reversing. This can be attributed to the increase of personal water conservation habits encouraged by periodic water shortages or higher water supply and sewerage costs even in normally water rich areas. Moreover, plumbing codes, State laws and ordinances are rapidly

being revised in many areas to require installation of water-saving fixtures in new dwellings, hotels, motels, and other buildings.

Section 21 of the 1977 Act requires the Agency, in approving the amount of reserve capacity for a treatment works, to take into account efforts to reduce the flow of sewage and unnecessary water consumption. The President's water resource policy features water conservation as its cornerstone and requires Federal agencies to implement appropriate conservation measures.

The guidelines require a cost-effectiveness evaluation of flow-reduction measures such as plastic toilet dams and low flow showerheads; changes in laws, ordinances, or plumbing codes requiring installation of water-saving devices in future habitations; and water pricing changes. The grantee must develop a recommended flow reduction program featuring a public information program plus cost-effective measures for which the grantee has implementation authority or can obtain cooperation from an entity with such authority. Exempted from these requirements are those communities with a population less than 10,000 or with average daily base flows, excluding infiltration/inflow and industrial flows, for treatment works design of less than 70 gallons per capita per day or with ongoing flow reduction programs.

Several commenters have suggested that small communities should be encouraged to conserve water and thus should not be exempt from the flow reduction requirements. The Agency concedes that some water conservation potential exists for smaller communities even though such communities tend to use and waste less water than the larger, more affluent cities. Nevertheless, the Agency believes that the limited cost savings obtainable in small communities from flow reduction programs may not be commensurate with the administrative burden imposed. Some commenters have pointed out that the 70 gallons per capita per day exemption criterion is too stringent and have suggested a 100 gallons per capita per day criterion. The Agency disagrees because the 70 gallons per capita per day figure, which represents an average dry weather base flow, is large enough to exempt most small communities and water-conserving larger cities. Almost all communities, including larger water users, would be exempt if the suggested 100 gallons per capita per day criterion were used.

Two commenters objected to the flow reduction requirements as being unreasonable for areas with adequate water supplies. The Agency disagrees. During the past 20 years, persistent drought and accompanying water

involvement in any contract dispute will not make EPA a party to any contract entered into by the grantee. (See § 35.938-8.)

(d) *Delegation to States.* The authority to provide technical and legal assistance in the administration of contract matters described in this section may be delegated to a State agency under Subpart F of this part if the State agency can demonstrate that it has the appropriate legal authority to undertake such functions.

**APPENDIX A**  
**COST-EFFECTIVENESS ANALYSIS GUIDELINES**

1. *Purpose.* These guidelines represent Agency policies and procedures for determining the most cost-effective waste treatment management system or component part.

2. *Authority.* These guidelines are provided under sections 2122)(C) and 217 of the Clean Water Act.

3. *Applicability.* These guidelines, except as otherwise noted, apply to all facilities planning under step 1 grant assistance awarded after September 30, 1978. The guidelines also apply to State or locally financed facilities planning on which subsequent step 2 or step 3 Federal grant assistance is based.

4. *Definitions.* Terms used in these guidelines are defined as follows:

a. *Waste treatment management system.* Used synonymously with "complete waste treatment system" as defined in §35.905 of this subpart.

b. *Cost-effectiveness analysis.* An analysis performed to determine which waste treatment management system or component part will result in the minimum total resources costs over time to meet Federal, State, or local requirements.

c. *Planning period.* The period over which a waste treatment management system is evaluated for cost-effectiveness. The planning period begins with the system's initial operation.

d. *Useful life.* The estimated period of time during which a treatment works or a component of a waste treatment management system will be operated.

e. *Disaggregation.* The process or result of breaking down a sum total of population or economic activity for a State or other jurisdiction (i.e., designated 208 area or SMSA) into smaller areas or jurisdictions.

5. *Identification, selection, and screening of alternatives.* a. *Identification of alternatives.* All feasible alternative waste management systems shall be initially identified. These alternatives should include systems discharging to receiving waters, land application systems, on-site and other non-centralized systems, including revenue generating applications, and systems employing the reuse of wastewater and recycling of pollutants. In identifying alternatives, the applicant shall consider the possibility of no action and staged development of the system.

b. *Screening of alternatives.* The identified alternatives shall be systematically screened to determine those capable of meeting the applicable Federal, State and local criteria.

c. *Selection of alternatives.* The identified alternatives shall be initially analyzed to determine which systems have cost-effective

potential and which should be fully evaluated according to the cost-effectiveness analysis procedures established in the guidelines.

d. *Extent of effort.* The extent of effort and the level of sophistication used in the cost-effectiveness analysis should reflect the project's size and importance. Where processes or techniques are claimed to be innovative technology on the basis of the cost reduction criterion contained in paragraph 6e(1) of appendix E to this subpart, a sufficiently detailed cost analysis shall be included to substantiate the claim to the satisfaction of the Regional Administrator.

6. *Cost-effectiveness analysis procedures.*

a. *Method of analysis.* The resources costs shall be determined by evaluating opportunity costs. For resources that can be expressed in monetary terms, the analysis will use the interest (discount) rate established in paragraph 6e. Monetary costs shall be calculated in terms of present worth values or equivalent annual values over the planning period defined in section 60. The analysis shall descriptively present nonmonetary factors (e.g., social and environmental) in order to determine their significance and impact. Nonmonetary factors include primary and secondary environmental effects, implementation, capability, operability, performance reliability and flexibility. Although such factors as use and recovery of energy and scarce resources and recycling of nutrients are to be included in the monetary cost analysis, the non-monetary evaluation shall also include them. The most cost-effective alternative shall be the waste treatment management system which the analysis determines to have the lowest present worth or equivalent annual value unless nonmonetary costs are overriding. The most cost-effective alternative must also meet the minimum requirements of applicable effluent limitations, groundwater protection, or other applicable standards established under the Act.

b. *Planning period.* The planning period for the cost-effectiveness analysis shall be 20 years.

c. *Elements of monetary costs.* The monetary costs to be considered shall include the total value of the resources which are attributable to the waste treatment management system or to one of its component parts. To determine these values, all monies necessary for capital construction costs and operation and maintenance costs shall be identified.

(1) Capital construction costs used in a cost-effective analysis shall include all contractors' costs of construction including overhead and profit, costs of land, relocation, and right-of-way and easement acquisition; costs of design engineering, field exploration and engineering services during construction; costs of administrative and legal services including costs of bond sales; startup costs such as operator training; and interest during construction. Capital construction costs shall also include contingency allowances consistent with the cost estimator's level of precision and detail.

(2) The cost-effectiveness analysis shall include annual costs for operation and maintenance (including routine replacement of equipment and equipment parts). These costs shall be adequate to ensure effective and dependable operation during the system's planning period. Annual costs shall be divided between fixed annual costs and costs which would depend on the annual quantity of waste water collected and treated.

Annual revenues generated by the waste treatment management system through energy recovery, crop production, or other outputs shall be deducted from the annual costs for operation and maintenance in accordance with guidance issued by the Administrator.

d. *Prices.* The applicant shall calculate the various components of costs on the basis of market prices prevailing at the time of the cost-effectiveness analysis. The analysis shall not allow for inflation of wages and prices, except those for land, as described in paragraph 6h(1) and for natural gas. This stipulation is based on the implied assumption that prices, other than the exceptions, for resources involved in treatment works construction and operation, will tend to change over time by approximately the same percentage. Changes in the general level of prices will not affect the results of the cost-effectiveness analysis. Natural gas prices shall be escalated at a compound rate of 4 percent annually over the planning period, unless the Regional Administrator determines that the grantee has justified use of a greater or lesser percentage based upon regional differentials between historical natural gas price escalation and construction cost escalation. Land prices shall be appreciated as provided in paragraph 6h(1). Both historical data and future projections support the gas and land price escalations relative to those for other goods and services related to waste water treatment. Price escalation rates may be updated periodically in accordance with Agency guidelines.

e. *Interest (discount) rate.* The rate which the Water Resources Council establishes annually for evaluation of water resource projects shall be used.

f. *Interest during construction.* (1) Where capital expenditures can be expected to be fairly uniform during the construction period, interest during construction may be calculated at  $I=1/2PCi$  where:

I = the interest accrued during the construction period.

P = the construction period in years.

C = the total capital expenditures.

i = the interest rate (discount rate in section 6e).

(2) Where expenditures will not be uniform, or when the construction period will be greater than 4 years, interest during construction shall be calculated on a year-by-year basis.

g. *Useful life.* (1) The treatment works' useful life for a cost-effectiveness analysis shall be as follows:

Land—permanent.  
Waste water conveyance structures (includes collection systems, outfall pipes, interceptors, force mains, tunnels, etc.)—50 years.

Other structures (includes plant building, concrete process tankage, basins, lift stations structures, etc.)—30-50 years.

Process equipment—15-20 years.

Auxiliary equipment—10-15 years.

(2) Other useful life periods will be acceptable when sufficient justification can be provided. Where a system or a component is for interim service, the anticipated useful life shall be reduced to the period for interim service.

h. *Salvage value.* (1) Land purchased for treatment works, including land used as part of the treatment process or for ultimate disposal of residues, may be assumed

to have a salvage value at the end of the planning period at least equal to its prevailing market value at the time of the analysis. In calculating the salvage value of land, the land value shall be appreciated at a compound rate of 3 percent annually over the planning period, unless the Regional Administrator determines that the grantee has justified the use of a greater or lesser percentage based upon historical differences between local land cost escalation and construction cost escalation. The land cost escalation rate may be updated periodically in accordance with Agency guidelines. Right-of-way easements shall be considered to have a salvage value not greater than the prevailing market value at the time of the analysis.

(2) Structures will be assumed to have a salvage value if there is a use for them at the end of the planning period. In this case, salvage value shall be estimated using straight line depreciation during the useful life of the treatment works.

(3) The method used in paragraph 6h(2) may be used to estimate salvage value at the end of the planning period for phased additions of process equipment and auxiliary equipment.

(4) When the anticipated useful life of a facility is less than 20 years (for analysis of interim facilities), salvage value can be claimed for equipment if it can be clearly demonstrated that a specific market or reuse opportunity will exist.

**7. Innovative and alternative wastewater treatment processes and techniques.**

a. Beginning October 1, 1978, the capital costs of publicly owned treatment works which use processes and techniques meeting the criteria of appendix E to this subpart and which have only a water pollution control function, may be eligible if the present worth cost of the treatment works is not more than 115 percent of the present worth cost of the most cost-effective pollution control system, exclusive of collection sewers and interceptors common to the two systems being compared, by 115 percent, except for the following situation.

b. Where innovative or alternative unit processes would serve in lieu of conventional unit processes in a conventional waste water treatment plant, and the present worth costs of the nonconventional unit processes are less than 50 percent of the present worth costs of the treatment plant, multiply the present worth costs of the replaced conventional processes by 115 percent, and add the cost of nonreplaced unit processes.

c. The eligibility of multipurpose projects which combine a water pollution control function with another function, and which use processes and techniques meeting the criteria of appendix E to this subpart, shall be determined in accordance with guidance issued by the Administrator.

d. The above provisions exclude individual systems under § 35.918. The regional Administrator may allow a grantee to apply the 15-percent preference authorized by this section to facility plans prepared under step 1 grant assistance awarded before October 1, 1978.

**8. Cost-effective siting and sizing of treatment works.**

a. **Population projections.** (1) The disaggregation of State projections of population shall be the basis for the population forecasts presented in individual facility plans, except as noted. These State projections shall be those developed in 1977 by the

Bureau of Economic Analysis (BEA), Department of Commerce, unless, as of June 26, 1978, the State has already prepared projections. These State projections may be used instead of the BEA projections if the year 2000 State population does not exceed that of the BEA projection by more than 5 percent. If the difference exceeds this amount, the State must either justify or lower its projection. Justification must be based on the historical and current trends (e.g., energy and industrial development, military base openings) not taken into account in the BEA projections. The State must submit for approval to the Administrator the request and justification for use of State projections higher than the BEA projections. By that time, the State shall issue a public notice of the request. Before the Administrator's approval of the State projection, the Regional Administrator shall solicit public comments and hold a public hearing if important issues are raised about the State projection's validity. State projections and disaggregations may be updated periodically in accordance with Agency guidelines.

(2) Each State, working with designated 208 planning agencies, organizations certified by the Governor under section 174(a) of the Clean Air Act, as amended, and other regional planning agencies in the State's nondesignated areas, shall disaggregate the State population projection among its designated 208 areas, other standard metropolitan statistical areas (SMSA's) not included in the 208 area, and non-SMSA counties or other appropriate jurisdictions. States that had enacted laws, as of June 26, 1978, mandating disaggregation of State population totals to each county for areawide 208 planning may retain this requirement. When disaggregating the State population total, the State shall take into account the projected population and economic activities identified in facility plans, areawide 208 plans and municipal master plans. The sum of the disaggregated projections shall not exceed the State projection. Where a designated 208 area has, as of June 26, 1978, already prepared a population projection, it may be used if the year 2000 population does not exceed that of the disaggregated projection by more than 10 percent. The State may then increase its population projection to include all such variances rather than lower the population projection totals for the other areas. If the 208 area population forecast exceeds the 10 percent allowance, the 208 agency must lower its projection within the allowance and submit the revised projection for approval to the State and the Regional Administrator.

(3) The State projection totals and the disaggregations will be submitted as an output of the statewide water quality management process. The submission shall include a list of designated 208 areas, all SMSA's, and counties or other units outside the 208 areas. For each unit the disaggregated population shall be shown for the years 1980, 1990, and 2000. Each State will submit its projection totals and disaggregations for the Regional Administrator's approval before October 1, 1979. Before this submission, the State shall hold a public meeting on the disaggregations and shall provide public notice of the meeting consistent with part 25 of this chapter. (See § 35.917(e).)

(4) When the State projection totals and disaggregations are approved they shall be

used thereafter for areawide water quality management planning as well as for facility planning and the needs surveys under section 516(b) of the Act. Within areawide 208 planning areas, the designated agencies, in consultation with the States, shall disaggregate the 208 area projections among the SMSA and non-SMSA areas and then disaggregate these SMSA and non-SMSA projections among the facility planning areas and the remaining areas. For those SMSA's not included within designated 208 planning areas, each State, with assistance from appropriate regional planning agencies, shall disaggregate the SMSA projection among the facility planning areas and the remaining areas within the SMSA. The State shall check the facility planning area forecasts to ensure reasonableness and consistency with the SMSA projections.

(3) For non-SMSA facility planning areas not included in designated areawide 208 areas, the State may disaggregate population projections for non-SMSA counties among facility planning areas and remaining areas. Otherwise, the grantee is to forecast future population growth for the facility planning area by linear extrapolation of the recent past (1960 to present) population trends for the planning area, use of correlations of planning area growth with population growth for the township, county or other larger parent area population, or another appropriate method. A population forecast may be raised above that indicated by the extension of past trends where likely impacts (e.g., significant new energy developments, large new industries, Federal installations, or institutions) justify the difference. The facilities plan must document the justification. These population forecasts should be based on estimates of new employment to be generated. The State shall check individual population forecasts to insure consistency with overall projections for non-SMSA counties and justification for any difference from past trends.

(6) Facilities plans prepared under step 1 grant assistance awarded later than 8 months after Agency approval of the State disaggregations shall follow population forecasts developed in accordance with these guidelines.

b. **Wastewater flow estimates.** (1) In determining total average daily flow for the design of treatment works, the flows to be considered include the average daily base flows (ADBF) expected from residential sources, commercial sources, institutional sources, and industries the works will serve plus allowances for future industries and nonexcessive infiltration/inflow. The amount of nonexcessive infiltration/inflow not included in the base flow estimates presented herein, is to be determined according to the Agency guidance for sewer system evaluation or Agency policy on treatment and control of combined sewer overflows (PRM 75-34).

(2) The estimation of existing and future ADBF, exclusive of flow reduction from combined residential, commercial and institutional sources, shall be based upon one of the following methods:

(a) **Preferred method.** Existing ADBF is estimated based upon a fully documented analysis of water use records adjusted for consumption and losses or on records of wastewater flows for extended dry periods less estimated dry weather infiltration. Future flows for the treatment works design should be estimated by determining the ex-

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CHAPTER 3

SUMMARIES AND CONCLUSIONS : LEAD AGENCIES & EPA

- 3.1 Special State Activities for the Process
  - 3.2 General Attitudes
  - 3.3 Use of Available Time
  - 3.4 Locus of Responsibility Within the States
  - 3.5 Methodologies and Approaches
  - 3.6 Consistency of Projections Within the States
  - 3.7 State Reactions to the EPA Projections
  - 3.8 Variance Requests
  - 3.9 Communications Problems
  - 3.10 Energy-Impact States
  - 3.11 Timing of the Requirements
  - 3.12 Vision
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### 3.1 SPECIAL STATE ACTIVITIES FOR THE PROCESS

Of the fifty states, approximately twenty have sufficiently refined, consistent, and updated processes of preparing and using projections that little new was needed to comply with EPA requirements for the October 1 submission except possibly for the public meeting:

Hawaii, for example, developed a complete set of projections which were released in March, 1978. Those projections were automatically used in water quality planning.

Arizona developed a complete set of projections which were adopted in 1977. A state Executive Order requires these projections, down to the association-of-governments, or regional, level, to be used in all state planning. All but one of the designated 208 agencies had projections for their areas no greater than the state-prepared ceilings. The one whose projections exceeded the state disaggregation is now revising its projection downward.

Maryland has preexisting projections prepared by their Department of Planning and used for county water and sewer plans. They are submitting these figures, meeting the public meeting requirement in the 208 hearings going on this summer.

The characteristics of states in this category seem to be:

- 1) having prepared population projections for the state in the recent past or good enough to still be useful and
- 2) having prepared projections for substate regions which were used in water quality planning or having already compared the state's own disaggregations with the projections of designated 208 agencies and begun to reconcile them.

For those states which have had to perform new tasks in compliance with the EPA guidelines, the tasks included:

- a) Preparing a state projection which did not already exist or deciding to use the EPA projection. West Virginia, for example, had no preexisting projection. They decided to use EPA's projection for the state, prepared disaggregations to the county level, and will hold a public meeting.

b) Comparing a state-produced number with the EPA projection and, in some cases, requesting a variance and preparing the justification. Montana, for example, has a set of projections prepared initially at the county level and summed to produce a projection for the state. Montana's projection is much higher than EPA's and they will be requesting a variance.

c) Comparing state-produced disaggregations with the projections prepared by designated 208 agencies. New York, for example, has made such comparisons and indicated which designated 208 agencies will receive variances and can use their current projections in the interim, and which must immediately modify theirs. In future water quality planning, designated 208 agencies will have to use the state's projections. By comparison, California is using a preexisting state projection, but not the associated disaggregation. Instead, the state will prepare a disaggregation in such a way that, with the 10% variances allowed for 208's, each designated area gets the projection it wants.

d) Preparing a disaggregation of whatever projection for the state was available. For example, Alabama had a preexisting disaggregation but decided to prepare another because intrastate trends have changed. Perhaps seven to nine states appear not to have had disaggregations for their own state projection.



### 3.2 GENERAL ATTITUDES

Some states found the process helpful:

It's a good idea to tie down projections. It simplified things.

This is definitely needed in order to avoid over- and under-design.

The disaggregations make it easier to deal with population and allow us to spend time on other issues.

Since 1966 we've required county water and sewer plans that say where and when service will be.... I was happy to see the EPA guidelines; it gives us more impetus.

Several states thought the process was an annoyance:

The whole thing is a lot of monkey business, an exercise in futility, an annoyance.

I would like a more "flexible" system, although preserving integrity and objectivity.

I'm sure we're not the only state that these guidelines are going to cause trouble.

In some states the projections were sufficiently consistent or noncontroversial as to have produced little interest on the state's part in the guidelines.

The remainder seemed to regard it as another federal requirement with which they were obliged and willing to comply.

Many states and especially many of those which seemed clearest in their understanding of the regulations and most experienced in dealing with projections expressed strong support for the "cascading" structure of the guidelines. Some particularly were pleased with EPA for having involved the states rather than going directly to substate governments. One urged EPA to continue to regard the states as the "first line of contact" in resolving intrastate conflicts over projections.

This result of our survey may perhaps be surprising, since there may be an impression in some quarters that states are having great difficulty with these guidelines. It is certainly possible that the people with whom we spoke were not being totally honest with us or were in fact not the ones with the strong negative opinions. We regard this as unlikely, though, given the frankness with which they answered many of our questions and the fact that we spoke with many dozens of people.

Two states which had opposed the general structure when the draft guidelines were open for public comment did not do so in our conversations with them. It should be noted that the state projections in both those cases were within 5% of the EPA projection. We do not speculate on how those states might have reacted had there been significant differences in these numbers.

Most of the problems mentioned with the guidelines were over the BEA model, specific state projections, the process of consultation with the states over those projections, the timing of these requirements, and the amount of "flexibility" available, or were based on misinterpretations of the guidelines. These problems are discussed in later sections of this report.

On the basis of our telephone discussions we suspect that as states become clearer in understanding the guidelines and as the relevant state agencies gain experience with projections, this process will come to work well in most states, including those which had trouble with it this time.

Appendix A contains a selection of supportive and critical comments made by state representatives on the entire process.



### 3.3 USE OF AVAILABLE TIME

Among the states which had substantial work to accomplish to meet EPA's deadline, there was great variation in the utilization of the available time. At one extreme, there are five states which admitted or implied to us that they would not meet the deadline. There are five others that we believe are likely not to meet it. And there are additional states that will meet the deadline only if their last-minute variance requests are approved and without a public hearing. Some states will meet the deadline only as a result of providing minimal notice of their public meetings. Some of these states had hardly or just begun the process when we spoke with them, even though it was less than three months before the deadline.

Reasons for lateness typically include communications problems with EPA, understaffing, too many other things to do, or problems of jurisdiction within the state.

Other states, however, got off to early starts and used the time available with great effectiveness. Florida held its public meetings in January, revised its projections in response to those meetings, and submitted its disaggregations to EPA April 3. Nevada submitted its variance request in April. Ohio disaggregated the EPA total to the county level and submitted these projections to designated agencies and river basin advisory councils. All but two of the regional councils submitted revisions that fell outside the allowed range. The ensuing process of thorough local review to achieve acceptable totals for most counties took nine months, and the state is now negotiating disaggregations for facility planning areas outside the designated areas. All this was achieved before some other states had even prepared a work plan for the process.

Since a draft of the guidelines was in the Federal Register in early 1977 and since states saw EPA's projection for them in early 1978, it is difficult to understand why some states waited until summer 1979 to begin the work.

### 3.4 LOCUS OF RESPONSIBILITY WITHIN THE STATES

All but seven states seem to have basically one agency which prepares projections for the state, according to our telephone interviews. We will be referring to these as the "projections agencies". Of the seven states which do not, six have no such agency and one has two of them, one of which prepares projections for federal programs and the other for instate use.

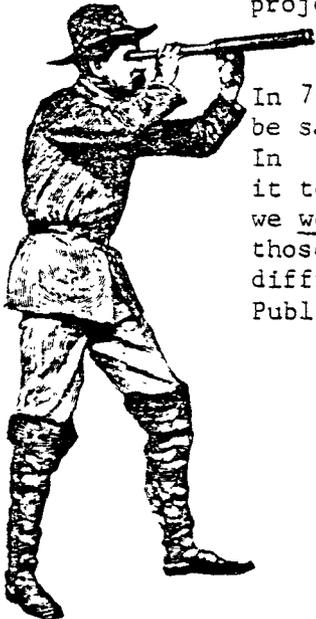
In the 43 states with projections agencies, the projections for compliance with EPA requirements were prepared by or through that agency in 37 cases. In the six states remaining ( CA, KA, ME, NJ, OR, WV), in which the projections agency was not utilized in this process, the reasons were among the following:

\* The state projections agency does only trend projections and its work does not represent the administration's policies on the use of projections in state or federal programs.

\* The state is using the process in order to implement a state growth policy, a function not appropriate in that state to the agency which prepares the projections.

\* The projections agency was in the process of preparing projections, but those would not be ready on time.

\* The water quality people wanted to use the projections prepared by designated 208 agencies rather than state-prepared projections.



In 7-8 states we had difficulty identifying a person who could be said to be responsible for the state complying with EPA. In four states where we eventually found such an individual, it took us many calls to locate the person. In some cases where we were able to locate the right person, other individuals in those states who attempted to do so on their own had great difficulty and sometimes never succeeded. See section 4.3, Public Involvement.

In several states, the person we identified as probably the one responsible for implementing the guidelines knew little or nothing about them. In some cases this might have been because that person supervised someone who knew the process well; however in other cases there appeared to be no one in the state who was well acquainted with what the guidelines said.

Several states themselves identified problems with implementing the guidelines as related to the lack of clarity within state government over who was responsible. In those states where the projections agency had refused to participate, an environmental agency sometimes was left holding the ball despite its feeling it did not have the expertise to do a good job. In one state three agencies already had projections; one of the two didn't want the responsibility in this case but the other two both did. In one state, as of the date of our contact the Governor had not yet designated a lead agency.

Several states commented that the agency signing the work agreement with EPA was not the agency with responsibility for producing the projections. It was therefore difficult to hold the latter to requirements or deadlines. Furthermore, since the projections agency is not usually the one which deals with EPA, there are not good working relationships, messages can get garbled, and the point of the guidelines can easily be missed.

In one state an Executive Order prohibits state agencies from using any projections but those currently being prepared by a particular agency, but allow others to use preexisting projections in the interim. The agency trying to comply with EPA does not know to what degree it can amend its existing basin plan projections.

Despite all this, all the states appear to be producing some set of projections and disaggregations for EPA. But the confusion in some has the effect of slowing down the process, making it probably less useful to the state, and making public involvement all but impossible.

### 3.5 METHODOLOGIES AND APPROACHES

Methodologies used by states to prepare their projections and disaggregations varied widely.

Although most states prepare state projections first, quite a few prepare projections for substate areas, typically counties or multicounty economic regions, and then sum those projections to produce a state projection. Examples of these include: Utah, Montana, Nevada, New York, South Dakota, and Wyoming.

The methodologies used range from pure demographic projections, pure econometric ones, with some states using combined methodologies (see Glossary, Appendix C, for definitions). Disaggregations include those techniques as well as a variety of trend and ratio methods.

Although in some cases it was not clear to us what sorts of methodologies were used at the state level, it seems that the following states are examples of ones which use certain techniques to produce state projections:

- pure demographic: California, Maryland, Massachusetts, New Hampshire, South Carolina, Vermont, and others
- pure economic: Colorado
- combined: Arizona, Connecticut, Hawaii.

Similarly, states prepared the disaggregations using different techniques, as mentioned above, and using different philosophies. They ranged from pure "trend" or "baseline" projections to more or less inclusion of policy considerations. See further in this section for definitions. New Jersey's disaggregations, for example, are prepared as a reflection of clearly articulated growth policy goals within the state (see Appendix B).



Of the states whose disaggregations were "baseline", some used elaborate demographic or econometric models, while others did not. One state, for example, compared with 1970 census results with the 1977 estimates and simply extrapolated the growth trends from that period. When asked if they really expected the areas to grow at the same rate for the rest of the century, the state replied that that's the best they have.

One state commented that since "there are no well-documented disaggregation methodologies except for land-based ones which are complex and require massive data,... we fall back on a quasi-technical and quasi-political process, which may be OK but which many planners don't like because it doesn't produce a pure projection."

We believe that two states are likely to present EPA with projections which include mere arithmetic manipulation of the numbers, reflecting neither technical rationales nor state growth policies.



## "Trend" and "Policy" Projections

Although in some cases these two sorts of approaches to a projection cannot be precisely distinguished, we use the terms in the following ways: A projection which relies only on past or current trends in job creation, migration, fertility, land use, etc. or includes only future events out of the control of public policy (or decisions already made) is a "trend" or "baseline" projection. A baseline projection is sometimes also defined as "a projection based on a defined set of economic and/or demographic assumptions and which attempt to capture and reflect the essence of historical growth patterns. They do not attempt to take into account changes in intervention strategies by any level of government or by the private sector." This perhaps does not clear up the definition, since we are not here defining "intervention strategy"!

We are using "policy" projection to refer to situations where a state government has articulated goals for the amount or distribution of growth in the state. In some cases these involve protection of agricultural land, prevention of sprawl, revitalization of cities, or others. These policies may be being implemented in other state programs or the state may be using the EPA process, and its effect on directing federal money within the state, as a or the tool to implement the state's goals.



States whose projections reflect policies

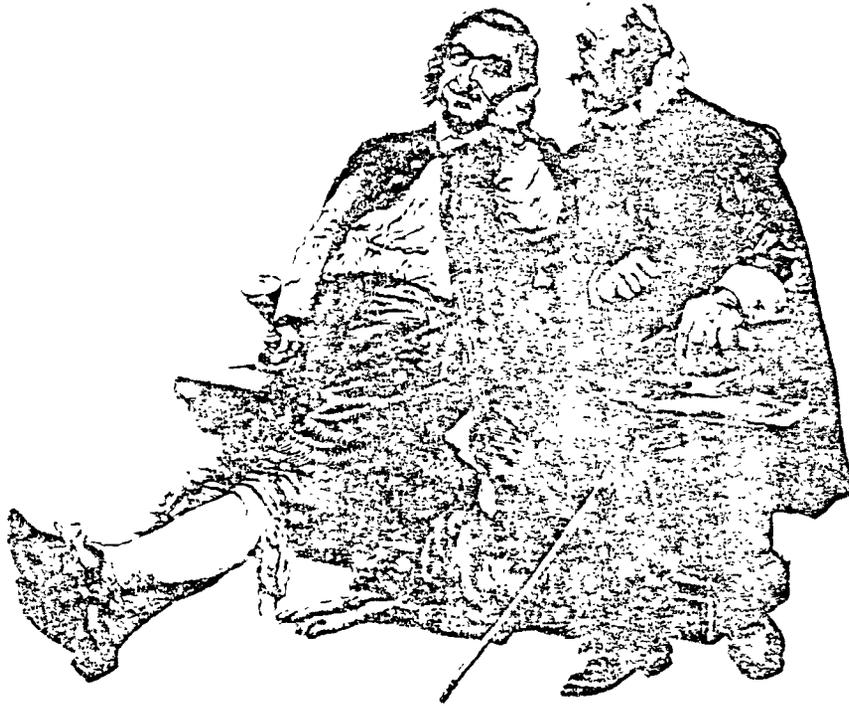
Hawaii has an ongoing State Commission on Population and Hawaii's Future, composed of seven public members, a representative of state government, and one from the U.S. Department of Defense. The Commission is very involved in the development of the projections, and the latter reflect a number of growth policy considerations involving distribution of population among the islands and the overall economic assumptions used in preparing the state projection.

Connecticut's upcoming set of projections will reflect a State Plan of Conservation and Development approved by the legislature.

New Jersey's projections are being specifically designed to reflect certain goals of the administration: preservation and enhancement of existing urban areas, substantial reduction in growth in currently undeveloped areas, and maintenance of moderate rates of growth in suburbs. These projections will be presented to 208 advisory committees and others for their response.

California's projections reflect the administration's commitment to an urban strategy, one of whose components is having state agencies use projections which have been prepared by councils of government.

Massachusetts' projections were initially developed by a state agency but were the subject of extensive discussions throughout the state as part of the Massachusetts Growth Policy Report. Local Growth Policy Committees existed in 330 of the state's 351 communities and meetings and discussions were held over a 20 month period. The question of how and where Massachusetts' communities should change was widely debated and projections were adjusted to form a mutually consistent and acceptable set which will now be used in all state and local planning.



### 3.6 CONSISTENCY OF PROJECTIONS WITHIN THE STATES

At least sixteen and possibly as many as twenty-six states already have a formal or informal policy of consistency among the projections used by state agencies - although in a few cases this is not strictly enforced. Almost half the states are already planning to use the disaggregations prepared for EPA for other purposes.

Two states, however, specifically do not want these numbers used by other state agencies. In one case it was because of disagreement with the population estimate on which the projection was based, leading to incomparability of the projections with others used in the state (see section 3.7). In the other case it was because of differences between the EPA projection and the state's own, without any problem with the estimate. A third state expressed reservations about further use of the disaggregations produced for EPA because of the "crudeness of their methodology."

Many of the states commented that their efforts to develop intra-state consistency are hampered by the varying requirements of federal programs. One state referred to state agencies dealing with the Dept. of Commerce; Dept. of Labor; health, Education & Welfare; and EPA, whose needs and requirements differ, while other states mentioned HUD programs and DPT. These states were supportive of federal efforts to develop consistent requirements since that would serve state needs as well.

In some states, though, problems within the state hamper the development of such consistency. Some are discussed in other sections of this report (see, for example, section 3.4). In one state, all planning is done with the same statewide population projections, but different programs use different disaggregations. In another state, one agency prepares county-level "trend" projections while several others use the regional planning agency projections because the latter are tied into air quality and water quality planning and reflect more closely local land use constraints and decisions. One state has four sets of operating projections: two for HUD programs, one done by a consultant for health planning, and an environmental set. Only the latter, according to our state contact, has had strong local input.

Two states complained that consultants and/or municipalities "can't be forced to use the same projections," despite the state being the source of the program's money. In one of those cases, the state had attempted to ensure that the consultant work regularly with the regional planning body; however that proved impossible to enforce and is now causing substantial problems. Despite these states' experience, others have no similar problems ensuring the use of state-produced projections by substate governments.



### 3.7 STATE REACTIONS TO THE EPA PROJECTIONS

By far the most comments from the states on ways to improve the implementation of the EPA guidelines were on the EPA state projections. Several states claimed to have not heard anything about the model or the purpose until they received the EPA projections "in the mail;" we did not check whether they meant the original set sent out in early 1977 for their review or the final set.

The states want more involvement in the process of developing the assumptions used in preparing the projections. There were many complaints about BEA's data base and assumptions being not detailed enough, outdated, or too general. Some states claimed to have no idea what methods BEA had used to produce the projections for EPA.

Roughly 25% of the states had either questions about or disagreements with the BEA model, the final numbers, or the process of consultation with the states.

Despite these disagreements, virtually none of the states expressed objection to EPA's having prepared a set of state projections. We must admit, however, that we did not ask a direct question on this subject. Nevertheless the states were being quite frank with us in general and one might suppose that if they felt strongly about this issue they would have mentioned it. We guess that the situation would have been very different had the 5% "automatic" variance and the procedure for requesting even greater variances not been available.

Sample comments of state representatives follow:

#### Communication

Several states complained that communication with BEA about their model is very difficult or impossible. "To talk with BEA you need to know the details of their model and that's almost impossible." BEA is far away and it's "not easy to complain to them." Furthermore, since "there is no formal mechanism for EPA and the state to discuss the projections" of BEA, the state has no effective way to consider or challenge the BEA methodology.

### BEA's Model

Some states use or prefer demographic to econometric models (see Glossary). Since BEA used the latter, it was difficult for those states to compare their own projections with EPA's and evaluate the differences.

One state did not like any federal agency coming up with numbers for the states at all, but added that EPA is "taking the heat" only because they instituted this process first. (It should be noted here that we did not find as much heat as several states thought we would)

"BEA didn't take into account energy development: uranium, coal, oil, and gas."

One state complained that several of BEA's assumptions are unrealistic in general and particularly bad for that state:

- \* 4% unemployment
- \* no cyclic fluctuations in the economy
- \* people moving primarily in response to jobs and income, rather than "quality of life" considerations."

### Trend Projections

Two states in the northeast objected to EPA having used "current trends" in preparing projections for the states. This, they said, was inconsistent with the President's Urban Policy, particularly if funding is in any way tied to the numbers. They felt that federal policies should be used to prepare projections, giving more weight to already-developed communities in the northeast.

### Estimates

3 states disagreed with the estimates of past and present population used by BEA as inputs for projecting as being incompatible with the state's own assumptions and with those used in other programs. One mentioned specifically BEA's state-by-state allocation of the 1970 census undercount; this factor is not accounted for in the state's own projections nor, they said, in Bureau of the Census estimates. As a result, one state commented, EPA ensured that the projections developed in compliance with EPA requirements will not be used for any other purposes within the state.

Another state mentioned that the BEA estimates and projections do not include the military population or ship's crews, while the state's own do. However in this case the state's projections is still less than BEA's; since the state uses its own forecasts in planning, it really doesn't matter.

A third state mentioned that the undercount of illegal aliens is significant in that state and needs to be dealt with.

### 3.8 VARIANCE REQUESTS

Although a few states had great disagreements with the EPA projections for their area, from a nationwide perspective there was general satisfaction with those projections.

According to our telephone interviews, we believe that three states requested variances of more than 5% by August 15: Colorado, Indiana, and Nevada. We believe that possibly six to eleven additional states are likely to make such requests by October 1. These include Montana, Utah, Wyoming, Washington, New Mexico, and Oklahoma, as well as others who have not yet decided what they will do.

The largest percentage increase we expect to be submitted will be approximately 35% (Utah), with the largest numerical increase possibly being almost a million and a half from one eastern state.

Although controversy over the state numbers is restricted to a relatively small number of states, the differences can imply major and potentially serious impacts within those states.

Several states were unclear about what kind of supporting information EPA would want to accompany a request for a variance.

Four states definitely are planning to use the provision of the guidelines allowing up to 10% variances for designated 208 agencies with preexisting projections: California, Colorado, Georgia, and New York. Approximately half the states have decided not to take advantage of that provision; this includes several states in which designated agencies have projections larger than those which the state has or will produce. The remainder of the states either have not yet compared their numbers with the 208's projections, have not yet prepared their own disaggregations, or did not indicate to us what they intended to do.

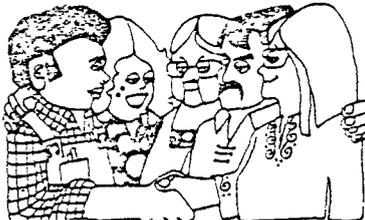
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### 3.9 COMMUNICATIONS PROBLEMS

Many states evidence substantial confusion over what was required of them, even on questions clearly dealt with in the guidelines. This may have been because they did not read the guidelines carefully enough (or, in some cases, at all), because the guidelines were perhaps too tersely written, or because of insufficient or confusing communications with EPA staff.

We point out the following to identify the typical problems:

- A. Some states were unaware that anything needed to be done at all. In some cases these were states whose projections processes were sufficiently consistent and complete that little, in fact, needed to be done. In others, the states needed to hold a public meeting or sometimes undertake substantial amounts of work. One state observed that it relies on EPA to highlight for it what needs to be done; that they do not have sufficient staff to pore through new regulations.
- B. There was much confusion over what needs to be submitted to EPA by October 1, although the guidelines are clear on this point. Several states, believing that projections were needed down to the facility planning level by October, mistakenly thought they would be unable to satisfy EPA's requirements.
- C. Several states mistakenly believed that the 10% variances available to designated 208 areas must fit within the original state total.
- D. Some states mistakenly thought that the EPA process is connected with the upcoming OMB/Commerce proposals (see cover letter, and sections 4.4, Appendix A.5, and elsewhere), and one state delayed its disaggregations waiting for word about the OMB/Commerce process.
- E. Some states did not know that a public meeting was required. This was true not only in states where a "projections" agency was carrying out the requirements but also in a few cases where an "environmental" agency was in charge.



### 3.10 ENERGY-IMPACT STATES

Much of the dissatisfaction with the EPA process, and with the EPA state projections in particular, came from energy-impact states: Alaska, Colorado, Utah, Wyoming, Montana, New Mexico. Wyoming, for example, updates its projections every six months and was concerned that if frequent revisions to the projections used by EPA are not permitted, planning will be done and facilities sized based on patently outdated projections.

States with "boom towns" were particularly concerned that "locking" a town into a previously-prepared county projection is not productive.

Furthermore, states appear to be using different philosophies in determining what energy-related facilities should be assumed in preparing the projections, even under a "baseline" or "trend" series. One claims not to include any project unless it is under construction or the environmental impact statement has been approved. Another may perhaps be including all projects proposed in the President's energy message, regardless of the likelihood of their being carried out.



One state expressed frustration with having to prepare and submit only one projection, since they believe the state population in the future will to a great extent be determined by national decisions which have not yet been made. That state suggested that states be allowed to submit an "alternative" projection which would come into use if a particular scenario does materialize. The concerns expressed in this suggestion might, in our opinion, be easily alleviated if appropriate arrangements are made for quick revision of a state's projection should conditions change quickly.

In quite a few cases we asked for ideas on how EPA might best deal with the problem of energy-impact states or towns. Ideas included allowing frequent revisions of the state's package of projections, allowing updates of projections for a particular substate region if that area has grown more than a pre-established amount, having a certain "pool" of population which is not allocated to any state which would then be available to energy-impact areas if needed.

### 3.11 TIMING OF THE REQUIREMENTS

Many states expressed concern about the timing of the requirement for the disaggregations in relation to the timing of other processes in which states are also involved. Some of the problems relate to timetables imposed by federal requirements while others involve internal state timetables.

#### Other Federal Requirements

How do these guidelines affect projections used in 208 plans already submitted and approved? New York has explicitly discussed with designated 208 agencies which projections must be updated and under what timetables. However we do not know if other states, in which plans of 208 agencies must be revised, have thought this through clearly.

What is the relationship with HUD "701" plans? Under an interagency agreement between EPA and the Dept. of Housing & Urban Development, projections used in the latter's "701" plans must be the same as those used in EPA's 208 plans. Who follows whose lead?

How will the process be affected by the release of a new set of BEA projections in 1979? by proposals of OMB/Commerce?  
See 2.2A, I, and J.

#### State Timetables

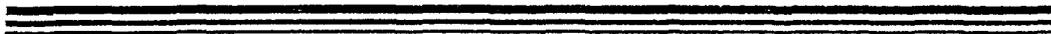
In some states, an update of the state's own projections is almost, but not quite, ready. Those states, which include Maine and Connecticut do not believe that what they submit by October 1 will be very useful and some expect to resubmit disaggregations soon thereafter. However there is no way that any fixed timetable for submitting projections would satisfy all the states. Illinois, Indiana, and Kansas are also about to release updated projections.

Other states, particularly those growing very rapidly, were concerned about the June 1978 date mentioned in the guidelines as the date by which a set of projections must have been in existence in order for it to be submitted to EPA without a variance request. They, as well as several other states,

believe they are growing very rapidly - generally in response to decisions made by the federal government - and that special consideration should be given to frequent updates or perhaps even interim adjustments in projections for parts of the state (see section 3.10).

Some states had prepared their projections before the guidelines were issued, either for their own use or in specific response to Clean Water Act requirements, but did not prepare disaggregations to the now required geographical detail.

Approximately seven states mentioned their lack of enthusiasm about preparing projections when the 1980 census is almost here.



### 3.12 VISION

Although most states will have complied with the letter of the guidelines, in only a few states were the individuals responsible aware of or planning to use the opportunities made available by the guidelines (see section 3.5).

These opportunities include:

- \* using the process to further the state's own goal of consistency among projections used by state agencies
- \* trying to develop consistency among the projections used for federal programs
- \* articulating a growth policy via the projections
- \* conducting productive negotiations with substate governments which might otherwise not have taken place.

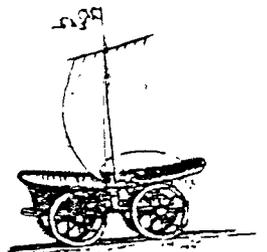
It is our belief that a state seeing the guidelines as something other than a dull federal requirement was, in part, dependent on prior experience in the agency or state with making or using projections, one individual with a particular interest in the "philosophy" of the use of projections, or prior state formulation of or interest in growth management or growth policy.

A major hurdle was that, as many states mentioned spontaneously, they thought of this as simply another regulation and "don't really understand what EPA wants" or what problems EPA was trying to solve in promulgating the guidelines.

Quite a few states already have or are working towards a policy of consistent projections among all state agencies (see section 3.6); in most of those, the states attempted to use the opportunity of complying with EPA to foster that policy. Some of them mentioned that this was not always easy because of the conflicting requirements of other federal or state agencies.

We are not trying to imply that had the option of not simply preparing "trend" projections been mentioned to the states, that large numbers would have taken advantage of it. In some states the question of growth policy is too controversial; in others it is being debated but no policies have been developed. One state volunteered that even had they realized the projections need not be "baseline" projections, they would have prepared such anyway "because that's what we've had experience with."

Although most states did not seem to realize it, it is a political choice to use "trend" projections. It was the lack of such awareness that, in our opinion, caused the poor attention to public involvement by most states (see section 4.3).



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CHAPTER 4

SUMMARIES AND CONCLUSIONS: INVOLVEMENT WITHIN THE STATE

- 4.1 Coordination Among State Agencies
  - 4.2 Involvement of Substate Governments
  - 4.3 Public Involvement
  - 4.4 What Remains to be Done
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#### 4.1 COORDINATION AMONG STATE AGENCIES

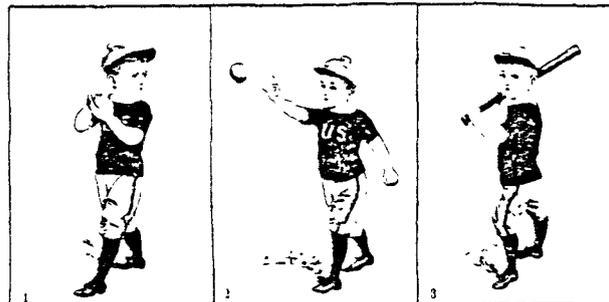
The present EPA process appears at first glance to involve only water-quality planning, but it has important ramifications well beyond water. Therefore it is vital to its success that a variety of the branches of state government be involved.

First of all, in many states water quality functions are divided among more than one agency. In some states these were all involved, but in others one agency would handle the process and the other would continue in blissful ignorance. In some extreme cases the 208 office would be handling disaggregations and the 201, or construction grants, office within the same agency wouldn't know about it.

Second, the process is in actuality as much tied to air quality as to water quality. The guidelines specifically mention required consultation with agencies doing air quality planning. Furthermore, future revisions of state implementation plans for meeting the Clean Air Act requirements must use the same projections as those used in the 208 plans.

In our telephone interviews we did not specifically ask about air agency contacts, but from the fact that only three or four states volunteered any mention of such contacts, we must conclude that they were not high in the consciousness of those implementing this process. Such consultations (or lack thereof, may not even be meeting the letter of the guidelines).

Furthermore, we do not know to what extent state air quality agencies (as opposed to the substate ones mentioned in the guidelines) were involved. In many cases these agencies were in the same department as the one handling water quality; however, as we found was the case among water people, mere co-presence within a department does not ensure communication.



A third interagency ramification of this process is that it is intrinsically related to land use and therefore relates to the work of whatever land use or planning agencies a state has. This kind of contact was frequently realized because in many of the states the initial disaggregations were prepared by a state planning agency which then gave them to the water agency, which often modified them and handled public and local government participation.

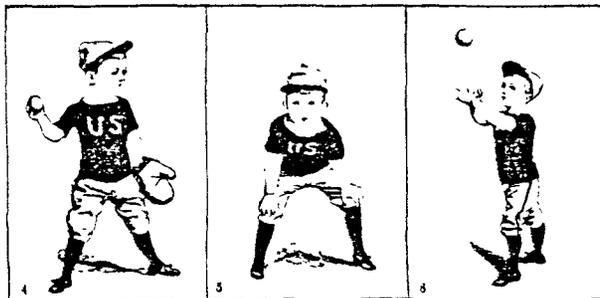
Unfortunately, however, it is not clear that the "planning" people were always informed of the actual impacts of use of the projections; often they seemed to be simple technicians preparing numbers. For other interagency problems, see section 3.6.

The reader may have noticed a certain pessimism on our part regarding effectiveness of coordination among state agencies. But we must note that there were six states which gave indications of efforts to achieve this. For example:

\* Quite a number of other state agencies attended Florida's Tallahassee projections meeting, including the Division of Forestry, Dept. of Transportation, Dept. of Health Planning & Development, and the Dept. of State Planning.

\* The state projections in Delaware are prepared by the Population Consortium, which includes representation from the Dept. of Transportation; Office of Management, Budget, and Planning; Dept. of Development and Housing; and the Dept. of Health and Social Services.

\* California has an interagency group on population projections which has met occasionally over the past few years and more recently has discussed California's compliance with the EPA guidelines. The air quality and water quality agencies have both been particularly involved.



## 4.2 INVOLVEMENT OF SUBSTATE GOVERNMENTS

In producing population disaggregations there is no substitute for interactions among the various levels of government. The federal government has to deal with states who have to deal with counties and COG's and 208's, who have to deal with municipalities.

"It's a negotiating process. You don't jam a population figure down a throat."

This kind of negotiation is necessary to get accurate base data or desirable trends; it is also needed to get the adherence of local governments to the projections once produced.

Fortunately, this kind of intergovernmental contact is also highly desirable for reasons that go far beyond projections. It is the keystone to effective regional planning of all kinds, and to effective implementation of almost any state program.

So we see it as a bonus that states with effective projections mechanisms in the course of them achieved considerable contact with different layers of government.

Ohio was exceptional in its efforts in this direction:

"We're kind of proud of what we've done. Local communities realized that this will determine the size of their facilities and so they took it seriously.... We submitted (our county projections) to designated agencies and advisory councils for each river basin. We let the regional councils revise them as long as they maintained a regional control total. All but two of them fell outside the allowed range, so we forced them to revise downward.

The Dayton metro area requested a 200,000 decrease. They documented it well, so we granted it.... If a city or county could document for us a change from our projection, we accepted it.

This process took us nine months, but we agreed on county totals except for three or four counties which we're still working on. We had very thorough local review and local input. I travelled all over the state.

(Ohio, continued)

We've held public hearings on the county level and small area projections: fourteen hearings in July and August. Then we'll go back and work one by one with the communities that don't like their projections.... When we make a change, we go back to the local advisory committee to get their approval again since it involves changes for the whole region."

It's time consuming, especially of staff time, but it's worth it. People may not like what we come up with, but they are generally agreed to accept it until the 1980 census.

Texas is another state that seems to have achieved considerable cooperation and interaction between the state and local governments:

"It was good that the federal government left intrastate disaggregations to the state, and the state left this to smaller units. Noone felt anybody was forcing anything on anyone. Each county did their own disaggregation, and with one exception they've all been reconciled.

"There's been discussion, but not much controversy. There weren't many discrepancies because the local areas had been working with the governor's office for years on projections. There were discrepancies in a few local areas, but there were handled within the counties."

Maryland is a state with considerable experience in projections and it wants to move towards more interaction:

"In the future we anticipate a more open and cooperative method for all planning areas -- an advisory group of state agencies and counties, lots of chance for local input."

Unfortunately, not all states were equally successful in achieving local involvement. Some states told us:

"No local government involvement until now."

"Local governments have been involved only by having received the notice. They won't be involved much until the facilities planning process (201)."

"I used to consult with local governments and the public but their information usually isn't good. I don't do that any more. I do better projections by myself."

Further, many states reported individual procedures which were especially effective in generating local involvement. Since these were by and large the same procedures used to general public participation, we refer the reader to section 4.3.

A frequently mentioned problem in many states was the one or two designated areas that requested exorbitant projections. It is difficult for us to find any overall pattern in how these were handled, i.e. in what cases the state changed its projections or granted a variance and in what cases the designated 208 agency is revising its. But, in most cases, these problems led to serious discussion between the state and that agency. And since these were parts of the state where growth is a particularly significant issue, we regard it as useful in itself that this process has led to discussions between levels of government.



### 4.3 PUBLIC INVOLVEMENT

In this section we discuss involvement of the non-governmental public in preparing, considering, or evaluating the projections used for the EPA requirements. It was disappointing to us that, in many states, our questions about public involvement were answered exclusively by reference to the involvement of local governments and it was sometimes difficult for us to make clear that we were particularly interested in the direct involvement of the non-governmental public.

It is hard to give an overall assessment of public involvement throughout the country. In some cases, there were pre-existing projections which were used widely throughout the state. Some of the projections in these states incorporated clearly articulated policy goals (see section 3.5). Many were pure "trend" or "baseline" projections (see definitions in section 3.5); of those, some were prepared with the involvement of advisory committees that included university representatives (Arizona, for example) or business representatives (Delaware, for example). Others were prepared purely by technical professionals.

Some of these states, which in most cases had little to do to comply with the guidelines, are now scheduling public meetings as the guidelines require (examples: Illinois, Michigan, Minnesota). Others believe they have already satisfied those requirements either through public involvement in the projections process or as a result of hearings on the 208 plans.

Most states which prepared projections for the 208 program reported having included consideration of those projections in the 208 hearings. In some of those, projections were singled out as a separate item of discussion - but no state in this category could recall any of the discussion. In others, projections were among the subjects on which public comments could have been made, but generally were not.

Some states claimed to have discussed projections with their 208 advisory committees. In at least one state, though, the topic never came up.

One projections agency described its work as "intentionally a bit ivory-towerish. Environmentalists are not involved."

In some states citizens were actively involved in debates over population projections at the designated 208 level - examples are the Atlanta Regional Commission, Southeast Michigan Council of Governments, Association of (San Francisco) Bay Area Governments. However our telephone survey was of state governments and we did not ask about involvement at this level.

We believe it is fair to say that except for a handful of states in which the projections are reflective of or used as growth policy, or those states in which all the decisions were made at the designated 208 level, there has been virtually no involvement of the non-governmental public in the process of deciding how projections should be prepared or considering the process as it developed.



### Inadequacies

In quite a few cases, state staff with whom we spoke were unaware of the requirement for a public meeting before the disaggregations are submitted to EPA. To be fair, in some cases we were speaking with staff of the "projections agency," who defer to the environmental agency on such matters. On the other hand, it is quite likely that in some of those cases the environmental "person" regarded their responsibilities as being simply to forward the projections to EPA. Furthermore, in a few cases even the latter individuals admitted to not knowing about the requirement for a public meeting.

In some states we believe the state meetings will be virtually a farce for a number of possible reasons:

- \* The state is giving insufficient notice or not announcing the meeting widely enough.

- \* Even after the state has given notice of a request for a variance, no information will be available for citizens to look at until a few days before the meeting itself.

- \* The meeting (in fact the entire process) is scheduled so closely before the deadline that the chance of public involvement making a difference, is virtually nil. But Florida shows how a state, by starting early, can stimulate considerable statewide involvement.

- \* The state does not want public involvement, sees it as a nuisance which cannot contribute to their work.

One state in fact described its own public meetings as "being done almost as an afterthought, without serious interest in getting public involvement." Another state official said he used to work with local governments and the public but doesn't do that any more because he can produce better projections than they can.

Furthermore, not only did some states hold these beliefs, but they expressed them to a caller from the Sierra Club, whom they might have presumed would have a great commitment to public participation.

## Analysis

It is our belief that there are several reasons why state officials have not seen much value in public involvement:

\* They are preparing "trend" projections and see the public as not being able to provide useful data about what is happening or professional reflection on the technical methods they are using. These states do not acknowledge that choosing to use "trend" projections is in itself a political decision, nor that there are different views on what is a "trend."

\* They have seen no public interest and cannot believe there would be any. However even in some states where citizens have tried to become involved, they have in several cases been unable to find out what the state was doing. See, for example, the individual state reports for New Jersey and Pennsylvania. When we ourselves called Delaware, we were explicitly and incorrectly told by one official that no one in the state was working on the process, and we suspect that a caller less persistent than ourselves would probably never have located a more knowledgeable official. Furthermore, citizens are not likely to become involved in something which is presented as a purely technical phenomenon that supposedly neither influences nor can be influenced by public policy decisions.

\* The state may be negative about the EPA process as a whole and wants to devote as little energy to it as possible.

\* The state regards discussions in the context of 208 plans as sufficient. However in too many cases the public (as well as state officials themselves) has a mistaken notion of the "accuracy" or non-controversial nature, supposedly, of population projections. There would therefore in many cases be no reason for a 208 advisory committee or others to spontaneously pay attention to the choices made in producing projections.

\* Although the state's water quality agency is familiar with and perhaps even sympathetic to public involvement, the projections are prepared by a "projections agency" which has no familiarity with how or why to involve the non-governmental public, may in fact be actively hostile to anything but professionally prepared "trend" projections, and regards its task as simply to produce good sets of numbers.

All these reasons are self-reinforcing, for a state which has failed until now to involve the public is unlikely even to see signs of public interest which might encourage further such efforts on the state's part. As in so many other domains, the nurturance of public involvement with projections requires careful attention from the state over the years through many rounds of updates.

### Successful Activities Towards Public Involvement

Despite the preceding fairly bleak account of public involvement throughout the country, quite a number of the states did engage in activities which we believe are appropriate for stimulating participation. We believe that if such activities are incorporated into projections procedures through the years, they will encourage the development of a public following which will be able in the future to make significant contributions. And an additional and immediate benefit is that most of these activities have been highly successful in generating the involvement of local government:

\* Massachusetts had an extensive growth policy process.

\* Florida held seven meetings around the state solely on population.

\* New York will publish a detailed handbook on projections for local contractors.

\* New Jersey is using the process as a forum for articulating growth policy, one which will then will be widely discussed.

\* Arizona has university planners and demographers on its technical advisory committee.

\* Hawaii has an ongoing Commission on Population and Hawaii's Future.

\* Ohio spent nine months negotiating over the county level projections, has held fourteen public meetings, and is now negotiating over projections for facilities planning areas.



"Which would you rather see built on this site?  
(A) An intercontinental airport. B) an atomic  
powerplant. (C) a mail-type shopping center or  
(D) a 3,000-unit middle-income housing development."

#### 4.4 WHAT REMAINS TO BE DONE

Although many states will have completed the process of submitting projections by the October 1 deadline, others will not. These latter states will still be making decisions on how to submit their projections.

Many important opportunities for public involvement still remain:

- \* When variance requests are submitted, the EPA Regional Administrator is required to solicit public comment and, if there is controversy, hold a public hearing. Since quite a few states are submitting last-minute requests for such variances, there is still a chance for public review of the request and for a hearing to be requested.

- \* Because public hearings require a 45 day notice, reducible to no less than 30 days, those states in which hearings will be held still have time for public participation in that hearing.

- \* If the variance requests are rejected, in whole or in part, states will have to prepare new projections.

- \* Several states seem to be violating even the letter of the guidelines on the requirement for a public meeting, and EPA might ask them to go back and hold one or otherwise improve public participation.

- \* The Office of Management & Budget and Dept. of Commerce are scheduled to propose a similar system for all federal programs which use projections in their funding formulas. These proposals are scheduled to appear in the Federal Register this fall, with several months for public comment and public hearings around the country. The Sierra Club's newsletter, Population Report, which is available free on request, will keep readers up to date on these proposals.

- \* Several states indicated they will resubmit projections in the near future, when their state updates are available. These include Connecticut, Kansas, and Maine.

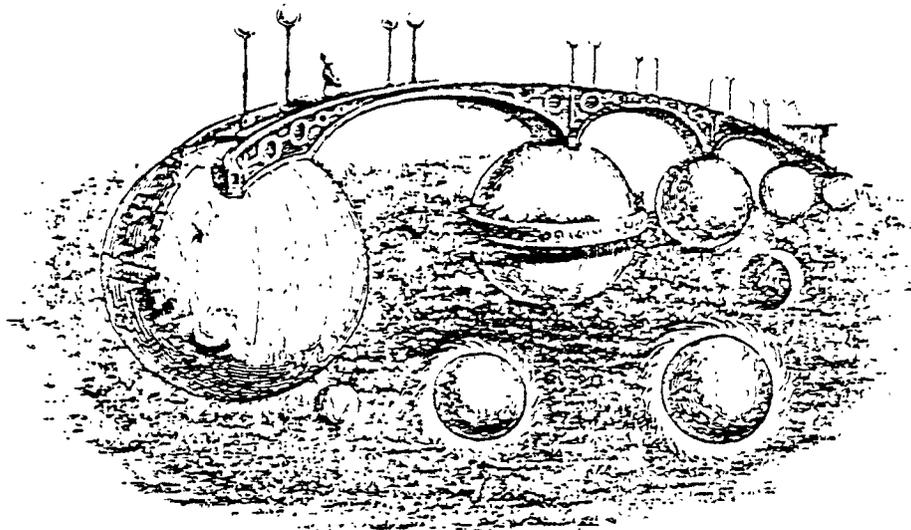
- \* All states will have continuing updates of their clean water and clean air plans, and projections for these will be periodically updated.

\* Many states have not yet prepared the projections to the facility planning level, which will soon be required for areas submitting step 1 grant applications. These projections need considerable local involvement.

\* EPA is developing regulations to tie together in a consistent way the projections used in clean air planning and the impact of the construction of sewage treatment facilities. Public involvement is needed in commenting on the proposals for this effort, which is implementation of Section 316 of the Clean Air Act, and in implementation at the local level.

\* Many states are involved in trying to establish statewide consistency in their use of projections.

\* Many states have regular projections processes, and these involve more or less frequent revisions of projections for the state and substate levels.



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CHAPTER 5  
RECOMMENDATIONS

- 5.1 State Activities to Involve the Public
  - 5.2 Public Meetings on Projections
  - 5.3 Communications Between EPA and the States
  - 5.4 Written Guidance for the States
  - 5.5 States Which Have Had Difficulties
  - 5.6 Involvement of Other State Agencies
  - 5.7 Revisions of the Projections and Integration With Other  
Federal Requirements
  - 5.8 Earlier Deadline for Variance Requests
  - 5.9 Urban Areas With Decreasing Populations or Low Growth Rates
  - 5.10 Proposed Federal-Wide Process
- 
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## 5.1 STATE ACTIVITIES TO INVOLVE THE PUBLIC

(see Chapter 4)

Unfortunately, it is not easy to spark overnight interest in a subject like population projections that has long been relegated to the private chambers of state demographers and water quality planners. Whether or not they have done so in the past, all states will now be required to prepare regular updates of their projections, and the task of encouraging public involvement must be seen as a year to year process to be built up gradually, not as something to be attempted once and abandoned if not greeted with immediate and spectacular outpourings.

Federal agencies overseeing state projections processes must give careful attention to formulating guidelines for insuring state processes that genuinely attempt to involve the public, and are not pro forma displays.

These guidelines might include itemizations of procedures for states to follow, but they should also contain the flexibility to encourage state experimentation. In Section 4.3, Public Involvement, we listed some of the innovative procedures used by various states to involve the public. It might be noted that most of these procedures are also highly effective in involving local governments and, in some cases (e.g. Florida), state agencies that are not otherwise involved.

We offer the following recommendations to states to facilitate public involvement:

### A. Written Materials on the State's Projections Effort

It would be extremely useful to the public, local government, and others for states to produce a brochure on the results of the state's projections work, describing not only the numbers and the methodology, but also:

- \* who was involved in developing the assumptions
- \* how local governments and the public participated
- \* whether any state policies were included
- \* which federal or state agencies will be using the projections and for what purposes.

The handbook being prepared by New York state is a beginning along these lines.

#### B. Briefing of 208 Advisory Committees

Many states have statewide and/or regional citizens advisory committees for their water quality programs. In at least one case we know that such a committee never discussed projections, and we suspect the situation to be widespread. We urge states to specifically inform these committees about projections. This is important even in states that have essentially completed the projections process, because these committees need to understand the role of projections in order to help integrate them into the overall continuing planning process for clean water.

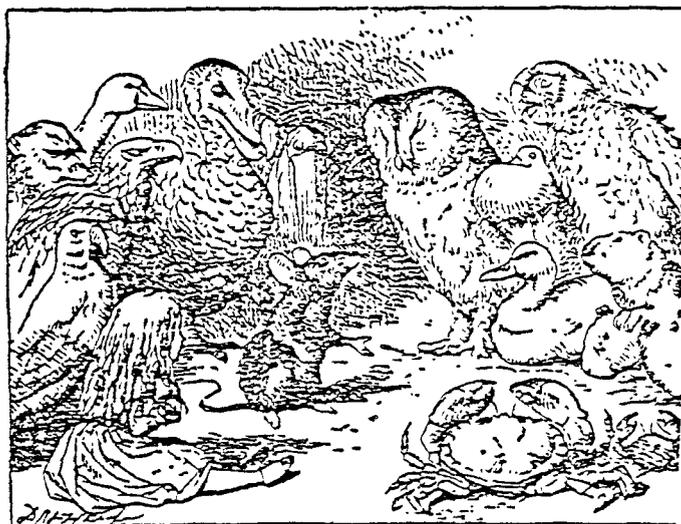
#### C. Regularly Involving the Public in Projections

We recommend that states regularly involve the public - the non-governmental public in particular - in their ongoing work of developing and using population projections, whether tied to an environmental planning program or not.

In section 5.10 below we recommend that states establish formal advisory committees specifically on the issue of population projections, with mandatory membership of a certain number of non-governmental individuals with varied backgrounds and interests.

#### D. Involvement of "Population People" in Environmental Planning

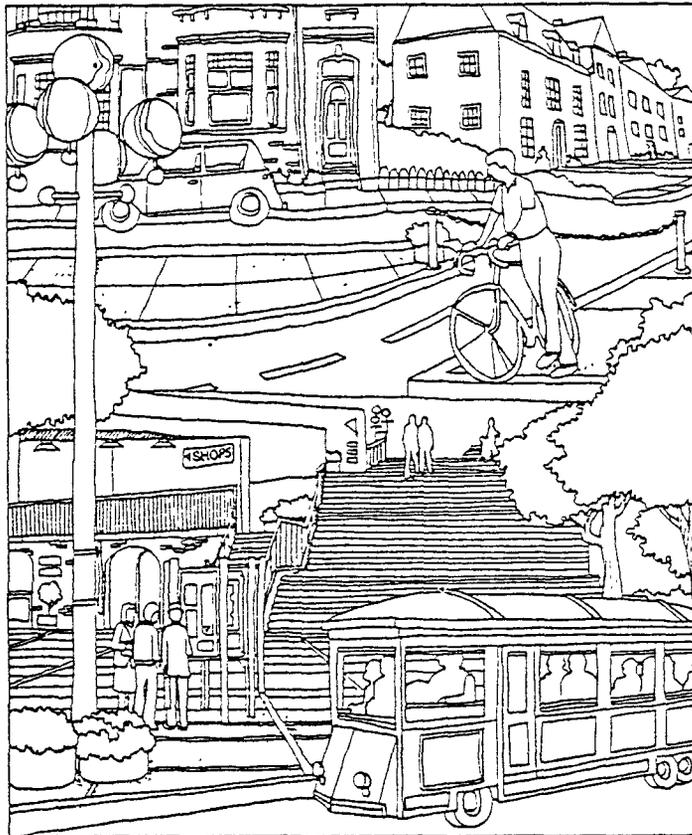
State agencies managing federal or state environmental planning programs should establish contacts with demographers, population organizations such as Zero Population Growth, and other individuals and groups who might be particularly interested in population. This is especially important in states where projections are prepared by water agencies who might otherwise lack demographic expertise and knowledge of who in the state is interested in population per se. These people and organizations might be added to mailing lists on projections-related issues but also, being few in number in some states, where appropriate might be contacted personally as well.



E. Consideration of the Impact of the Projections

Statewide discussion should be fostered of the impact of the projections used. As one state official commented, people understand what the projections mean only as they consider the impact of the numbers and distribution on water quality, housing, land use, open space, jobs, air quality, etc. It is no wonder that much of the public is not interested in projections abstractly: divorced from considerations of impact, the numbers are much more difficult to grasp.

One state official commented to us that his agency was obligated to prepare the projections, but that he hoped some other state agency would consider the impacts, some of which he thought were adverse.



## 5.2 PUBLIC MEETINGS ON PROJECTIONS

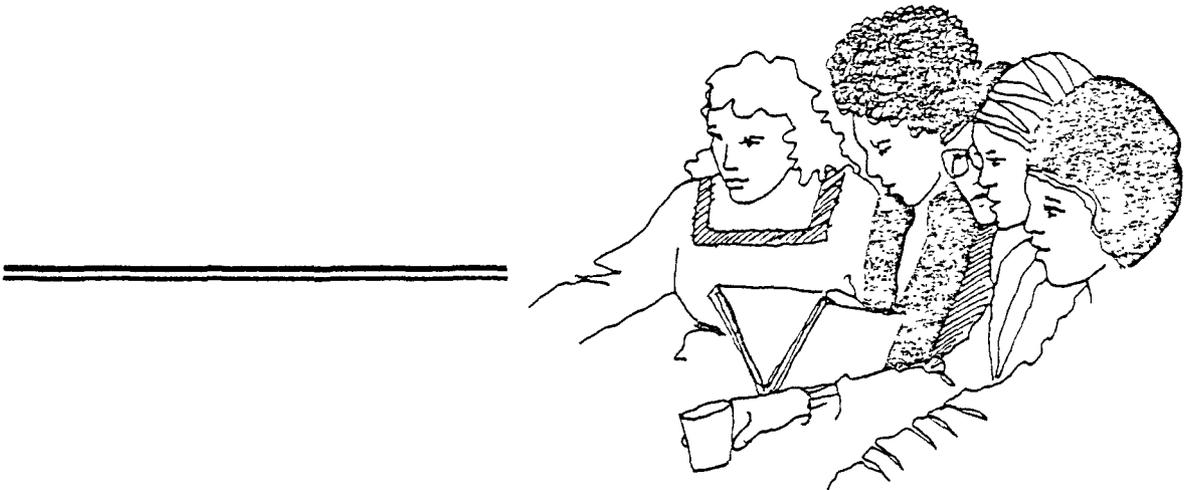
(see section 4.3)

In many states, the public meetings on the disaggregations were combined with meetings on the water quality plans. Although this has the benefit of focusing attention on the impacts of growth rather than on the numbers themselves, in most cases the projections were never the subject of comment.

EPA should suggest to the states that, when holding meetings on a number of subject, population projections be specifically given a special place on the agenda and their importance highlighted for those attending.

Furthermore, EPA should strictly enforce the following:

- \* holding of a meeting when required
- \* adequate public notice
- \* calculating the time of issuance of public notice only from the date materials are available to be reviewed by public, not merely when a notice is published
- \* scheduling meetings in accessible locations at times during which the public can attend without difficulty
- \* scheduling meetings sufficiently before submissions deadlines to allow public concerns to be evaluated and incorporated into the state's proposals.



### 5.3 COMMUNICATIONS BETWEEN EPA AND THE STATES

(see sections 3.3 & 3.9)

Various problems of communication between EPA and the states were common, and described in detail in sections 3.3 and 3.9. EPA should be careful to highlight those portions of regulations which require something new of the states, particularly (as in this case) when a process is likely to involve extensive negotiations with substate agencies.

Such discussions should occur well before any deadlines in order to make it possible for states to finish on time.

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### 5.4 WRITTEN GUIDANCE FOR THE STATES

(see chapters 3 & 4)

EPA should produce written, explanatory materials for the states on what is being asked of them, why the guidelines were developed, and how they can be implemented in various ways.

Availability of such material would, we hope, eliminate many of the misunderstandings which occurred this time around and also provide states with more of an understanding of EPA's reasons for promulgating these guidelines. Otherwise, states often regard them simply as another bureaucratic requirement. It should be remembered that in many states the agencies producing the projections have no direct contact with EPA or familiarity with the impact of use of the projections in various programs.

Furthermore, most states did not avail themselves of the opportunities made possible by the flexibility written into the guidelines. In many cases their staff was overworked and unlikely to notice anything but the mere requirements of the guidelines; in other cases states or the programs responsible were sufficiently unfamiliar with the use of population projections, that other possibilities did not occur to them.

Guidance from EPA might well include case studies and examples of how the guidelines might be applied in various circumstances.

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## 5.5 STATES WHICH HAVE HAD DIFFICULTIES

EPA should work particularly closely with those few states which appear to have had or be having difficulty complying with the guidelines, serious misunderstandings about them, or problems developing a locus of responsibility within the state.

We expect that if this is done, such problems will be substantially reduced, if not eliminated, by the time of the next revision.

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## 5.6 INVOLVEMENT OF OTHER STATE AGENCIES

(see section 4.1)

EPA should strictly enforce requirements for involvement of state agencies and local governments. In particular, when guidelines such as these require specific consultation with, for example, air quality planning agencies, EPA should notify those state agencies directly to ensure they are aware that their participation is needed.

This is particularly important for those states where the projections are being prepared not by an environmental agency but by a projections agency which might not appreciate the desirability of involving others in state government.



5.7 REVISIONS OF THE PROJECTIONS AND  
INTEGRATION WITH OTHER FEDERAL REQUIREMENTS

(see sections 3.6 & 3.11)

EPA should make clearer determinations of how revisions to the state projections and the disaggregations can be integrated into ongoing environmental planning efforts.

EPA should also resolve with the Dept. of Housing & Urban Development the relationship between projections prepared for EPA's 208 program, now in some ways constrained by these guidelines, and projections used for HUD's "701" plans.

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5.8 EARLIER DEADLINE FOR VARIANCE REQUESTS

Several states are delaying the submission of variance requests until close to October 1 and submitting them together with disaggregations. This has the result that if the variances are denied, these states will not have submitted adequate disaggregations.

Furthermore, such late submissions make it difficult for public reaction to the variance request to be adequately considered and incorporated.

These situations could be avoided if the deadline for requesting a variance of the state number were considerably earlier than that for submitting disaggregations.



## 5.9 URBAN AREAS WITH DECREASING POPULATIONS

### OR LOW GROWTH RATES

(see section 3.7)

A major weakness in the guidelines is that while they may prove to be effective in preventing overbuilding, they are not very effective in those areas which, from a variety of criteria, should experience more rapid growth.

If one takes the trends in, for example, many urban areas, one sees substantial decreases in the center city population. This problem could be resolved if the states were to realize that they need not use "trends" in producing the projection; they could instead, as New Jersey is doing, establish goals for population in urban areas and have the projections reflect those goals. We have addressed this more general problem elsewhere in the report.

Nevertheless the problem remains when we look at the state projections; they have been prepared according to "trends" for the states, and the process does not appear to allow this to change. The only opportunity would seem to be for a state itself to produce a higher overall projection and convince EPA that such is the "real" trend.

Since these regulations are considered to be part of the President's Urban Policies, effects on our established cities should be carefully considered.

We recommend that a thorough analysis be done of how population projections are used in making funding decisions throughout the federal government and, in particular, how this affects urban areas.



## 5.10 PROPOSED FEDERAL-WIDE PROCESS

The EPA projections guidelines are in many ways a pilot study for how such a process might operate at a federal-wide level. As we mentioned in the cover letter to this report, a proposal for development of consistent projections which must be used in those federal programs which use projections in a funding formula is expected to be proposed by OMB & the Department of Commerce this fall.

Much of the analysis and many of the recommendations in this report will, we hope, be of use to those developing this proposal.

We offer the following specific recommendations:

- A. Most states would find federal-wide consistency a substantial step forward. Several complained to us that different requirements in EPA, HUD, DOT, and HEW programs cause them to need to produce several sets of projections.
- B. Although most states were satisfied with the EPA numbers, this was because of their similarity to the states' own projections and the provision in the guidelines allowing them to use the latter if differences were minor. In order to maintain smooth working relationships with states, to increase the possibility of this process being useful to the states in their own, non-federally-required work, and to avoid duplication of efforts by states, we feel strongly that variances such as the 5% one allowed by EPA should be maintained.
- C. Our recommendation for written guidance to the states (see section 5.4) is even more important if the projections are to be used more widely. This guidance should not simply be a rephrasing of guidelines, but should include examples, and answers to common questions in easily readable format. We believe the materials should be written at a level understandable to the potentially-interested public.



- D. Because the process has thus far been tied only to certain environmental planning requirements, the agencies overseeing the process have been either environmental ones or what we have been calling "projections agencies." If the process were implemented to cover many more federal programs, presumably the latter agencies would get greater responsibilities and the former less.

However it is precisely the "projections" agencies which in many states have no interest in or knowledge of public participation. We believe that requirements for public involvement must be carefully and tightly written and enforced, because the risk of lack of public involvement is greater.

We recommend serious consideration of states establishing state advisory committees on projections with mandatory membership of a certain number of non-governmental individuals including varied backgrounds in all the relevant program areas: water, air, solid waste, housing, education, transportation, etc., as well as population.

Leaving such options open to the states is likely to be productive only in those states which have thus far displayed public participation in implementing the EPA guidelines.

- E. Several states complained that they were not sufficiently consulted when the BEA/EPA projections were developed. In two cases the estimates used were not comparable to those used by the states. Such problems should be taken seriously, and opportunity for state involvement should be created.
- F. The various federal planning requirements should be spelled out on a timetable and the relationship of development of the projections to that timetable should be made clear to the states. Otherwise there may well be rampant confusion about which update of the projections is required to be used by whom, when. The particular cases of states whose own projections timetables are incompatible with required state updates for federal purposes should be dealt with in advance.



APPENDICES

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APPENDIX A

ADDITIONAL COMMENTS OF THE STATES

In our telephone interviews we offered states the opportunity to make whatever comments they wished on the EPA projections guidelines. In Chapter 3, Summaries and Conclusions, we have quoted or mentioned many of those comments.

In this section we present additional comments which did not fit anywhere else or are more general.

- A.1 General Supportive Comments
  - A.2 General Negative Comments
  - A.3 Miscellaneous Comments
  - A.4 Specific Suggestions or Problems
  - A.5 Reactions to Possible Federal-Wide System
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## A.1 GENERAL SUPPORTIVE COMMENTS

It's good to force states to look at projections because it makes them think about the impact of the growth. It will stop local governments from manipulating projections high or low to get what they want.

Despite the fact that we are participating reluctantly, I think the process provided good liaison opportunities with substate agencies.

This makes good sense if done at the beginning of 208 planning and it will make good sense in 1985 when the new census data are available.

We're proud of what we've done. Local communities realized that this will determine the size of their facilities and so they took it seriously.

This is definitely needed in order to avoid over- and under-design. It is particularly important for the 208's but not in rural areas and the SMSA's which are (in that state) mostly quite small and not showing much growth.

We're already using the interim figures. We're being fairly stringent about them. We're telling local governments that consultants will no longer be preparing projections. We'll be handing the projections to them.

Disaggregating to facility planning areas is a good thing. I've seen a lot of abuse (this person said). A jurisdiction would come and project the bulk of the growth in one end of the county, and then a couple of years later they'd come back and project all their growth in the other end.

No doubt about it. We need standardized population projections that are acceptable to everyone involved.

I now know more after going through this process.

States should develop their own disaggregations, resolving their own needs and what EPA will accept. Many states are like us and haven't had the foresight or resources to develop disaggregations previously.

The process wasn't very tedious or complicated. For one thing because we've been here before.

The process will probably result in benefits, particularly if people work out good compromises.

We try hard to keep projects from getting out of hand.

Consistent projections (which we've had in the state) have been a good experience.

I concur in EPA's approach of getting everybody involved.

EPA should extend this approach to its other programs, NPDES permits and non-point source programs in particular. Population is clearly an important factor in estimating future waste quantities, but the regulations now address the use of projections in these programs only indirectly.

Don't ruin good things going on in the states right now with too many regulations. The current level of detail in the projections guidelines is good now.

If EPA will support a state when it has a strong program, things will work well. They've built flexibility (the 5 and 10% provisions) into it. If EPA is willing to take the heat, it will be OK.

The process we used was time-consuming, particularly of staff time. But because of the local consultation, people are generally agreed to accept the results, at least until the 1980 census.

EPA should look to the states as the "first line of contact" for resolving conflicts with local governments.

## A.2 GENERAL NEGATIVE COMMENTS

The requirements are difficult to read.

EPA has said that if there's some reason for deviating from these projections they'll be flexible but most people (in our local governments) are afraid that EPA won't allow any change in the projections. We're afraid they'll put these in concrete.

We're under some awfully rigid requirements that could cause problems for a specific county, say one where the figures don't reflect what we (now) know or expect. The tools of the trade don't allow us to project in a rapidly expanding county.

The EPA should ask states for projections. They'd get more state input. The regulations seemed not to realize that lots of people across the country are wrestling or dealing with the same thing.

They (EPA) made no effort to get input the way the states are required to get it. The state projection just showed up in the mail one day. (comment of two states)

The system set up now is workable. But it's probably too hard to deal with. It's so structured there's no way to deal with anything out of the ordinary.

The whole thing is a lot of monkey business, an exercise in futility, an annoyance. It should be done case by case; the total of the parts might well exceed the whole. If we're looking at a town that looks like it's going to grow, we give it funding for growth.

We didn't get enough money for planning in the non-designated parts of the state and as a result our projections aren't very good there. We're telling our contractors that the local numbers shouldn't be treated as gospel for 201 planning.

Doing disaggregations to the county level is worthwhile, but doing them in rural areas to facility planning areas is not. The regs. seem more appropriate for denser populated urban states.

We shouldn't have to do this as part of the statewide 208 program. It's more related to Construction Grants in 205g or someone else.

These guidelines are constructed to produce a "convenient" projection. But really you should be going to the level of government which has the most information, which in some cases will be a local government not the state or the feds.

We shouldn't have to do disaggregations at all since our state's growth is totally a function of federal decision.

We would prefer to submit two projections not one. In many parts of the state, the economy is dependent on one industry or one company and it is difficult to pick a particular future. Having additional projections ready and approved means one can switch to using that projection as soon as a decision is made. This is particularly important when situations are changing rapidly.

### A.3 MISCELLANEOUS COMMENTS

This is an unplanned planning program. Agencies that work with HUD are more used to this.

The process is easy for states that are well-prepared but very hard for others.

The feds want to ignore the energy boom. I'll have to eat my words if EPA accepts our request for a variance.

We have a problem with asking our Governor to accept projections prepared outside the state. We feel our projections are as good as EPA's.

The methodology should be reviewed stringently but there should be some leeway in the actual numbers produced.

EPA needs to be "flexible", particularly at the facilities planning level (a comment of quite a few states).

#### A.4 SPECIFIC SUGGESTIONS OR PROBLEMS

This section covers ideas not included in earlier chapters or in the State Reports.

One state felt the 5% and 10% variances were "arbitrary" and that if such variances are allowed at the state and 208 level they should also be allowed at the facilities planning level.

Two states commented that treating the designated and non-designated areas differently (as far as possible variances) polarizes them and is unfair to the nondesignated areas.

One state commented that because the 10% variances allowed to the designated areas do not take population away from other parts of the state, it is politically impossible for the Governor to refuse to grant one. (On the other hand, several states in which there are significant differences between the 208 and the state projections are not going to grant the variances and have no problems with that)

One state accepted a 5% variance even though it really wanted a somewhat larger one because the process was easier.

One state has several problem counties which contain large military bases. They have to rely on the army's figures for those but there may be closing of bases in other states which would mean more people in their state.

Five states mentioned having communities with large seasonal populations of tourists and retired people and not knowing how EPA wanted them to handle this in their projections.

One state commented that since most of the step 1 grants in that area have already been awarded the guidelines should perhaps also cover step 2 grants. Related to this is the following:

In one state the current set of projections is now significantly different in parts of the state from the former set. One large project is now completing its planning phase (step 1 grant) and it appears that the projection which was used is very much inflated compared with the more recent projection. One person in the state government stated a preference for having the most recent projection used even if it is developed at the end of a lengthy and expensive planning process. That state had attempted to get the contractors to consult regularly with local government planners but this apparently was difficult to implement.

#### A.5 REACTIONS TO POSSIBLE FEDERAL-WIDE SYSTEM

In our telephone interviews, quite a few of the state people were aware that the federal government is considering developing a process to ensure consistent use of population projections by all federal programs which use projections in funding formulas.

States generally expressed support for the idea of consistent projections to be used by state and federal programs, with some commenting on the technical or political hurdles to be overcome.

Some states were acquainted with the details of the proposals being developed by the Office of Management & Budget and Department of Commerce along these lines. In some discussions, the nature of the conversation led us to tell states about these proposals; in others the issue never arose.

##### General Supportive Comments

Sounds rather progressive.

I wish them luck.

The idea has merit but will take time.

All federal agencies should use the same numbers.

There's some practical value to the OMB plan, but also headaches.

There are now (in our state) no official numbers at any level. The feds should use the same numbers; every program in DHEW uses a different projection.

A very strong, good move as long as there is substantial state involvement in reviewing the state projections.

### General Negative Comments

It's sensible to use different methodologies for different purposes. The Federal DOT projections have been useful to us and in the short term they have come out very close. I caution against using one set of numbers for all purposes.

There will be a similar problem with the OMB plan to the one the states now have with the locals. The states are likely to say that there's not enough state involvement.

Projections are not appropriate for allocating money.

Joint BEA/Census projections (to be proposed by OMB and Commerce) might not be better. One small state commented that it was difficult for them to have influence. A larger state suggested outside review in developing the projections.

We are "headed for a big battle with OMB." States know the trends better than the feds. The OMB proposals don't take into account federal policy objectives such as Carter's urban policy. If we look at the long-term situation, for example, the northeast has plenty of water and will get more growth.

If done wrong, this could reinforce current population shifts around the country (which is bad).

### Other Comments

You need to look at the implications of using different projections. Overbuilding of hospitals, for example, causes higher rates to its patients but overbuilding of highways brings no complaints because it wasn't built with local money.

All calculations of need should be done straight, with a safety factor added explicitly at the end. The way it's done now, they add a safety factor in each calculation, and the final number is wildly inflated.

In non-EPA programs, one has to get the analogue of per capita use and the design period. One fact that also needs to be considered is the risk. For example, in the case of hospital needs, coming up short is a real problem.

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APPENDIX B

INDIVIDUAL STATE REPORTS

Each state report that follows is the summary of one or more telephone interviews lasting between twenty and sixty minutes each. Because of limitations of space we had to omit much of the information we learned in those calls; we would be happy to provide additional details on request on particular states.

"Date of contact" refers to the date of our most recent telephone conversation with a state representative. Material in the summaries is therefore no more recent than that date; because some states were at the time in the midst of deciding how to handle the projections, the situation at the time you are reading this may be very different.

"7/77 estimate" refers to the estimate of population in July, 1977 used by the Bureau of Economic Analysis in preparing in preparing their projections for EPA.

"EPA projection" is the projection for the year 2000 for the state prepared by BEA for EPA.

"State projection" is the state's official, or usual, or only available projection prepared by the state's projection agency. It may be several years old, or very recent.

"Projection submitted" is the projection for the state which has been or will be submitted to EPA. Except where indicated, it does not include 10% variances which may be granted to designated 208 agencies.

The section entitled, "State Projections" describes the state's usual process of developing projections, independent of EPA requirements. The next section, "Special activities for EPA" includes projections developed as part of EPA planning processes (such as 208) or specifically to comply with these guidelines. In some cases it was difficult for us to tell in which of these two categories some activity has fallen.

In the "Other Comments" section we present, for some states, a brief analysis of strengths and weaknesses in a state's approach to the EPA guidelines.

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ALABAMA

Date of contact: August 6

Gilford Gilder  
Office of State Planning and  
Federal Programs (OSFPF)  
State Capitol  
Montgomery, Alabama 36130  
(205) 832-6400

7/77 estimate: 3,690,000  
FPA projection: 4,140,000  
state projection: "doesn't differ  
from BFA by  
more than 5%"  
projection submitted: same

State Projections

Three years ago 11 southern states including Alabama did a county level disaggregation. This was based on BFA "OHRS, F" 1972 projections. There are no legally official projections in the state, but OSFPF has promoted theirs and they are used by several state agencies including civil defense, education, some parts of the health department, and some HUD agencies. They are the only consistent set put out with regularity.

Special Activities for EPA

They decided to re-disaggregate the same totals as before because there have been changes in trends. The new disaggregation and notice of a public meeting September 5, just on projections, were sent out August 3. The disaggregation was based almost entirely on census data and annual estimates.

Other Comments

Apparently the state will meet the FPA deadline with no difficulty.

ALASKA

Date of contact: July 26

Bob Martin  
Construction Grants Engineer  
Department of Environmental Conservation  
Pouch 0  
Juneau, Alaska 99811

7/77 estimate: 407,000  
EPA projection: 667,000  
state projection: none  
projection submitted: 667,000

State Projections

none

Special Activity for EPA

They are extremely skeptical about any projections. They think that EPA figures may be low, but they say they have no evidence; so they look them. (Martin mentioned existing projections for 2000 ranging from 500,000 to 1,000,000).

They divided the state into six significant population areas, (the municipality of Anchorage, the four largest boroughs, and "other"), and went to the Department of Commerce and Economic Development to get growth figures for these. The methodology used a combination of historic trends and guesswork by Martin, who is not a demographer, to divide the growth among the six areas. They will be holding meetings in late July or early August on their priority list, and projections will be included. He didn't think environmental groups were included on the mailing list for notice for the meetings. There has been no other public participation till now, and local government involvement.

These disaggregations won't be used for any other purpose.

Other Comments

Alaska has some special circumstances that make projections there extremely problematic, in particular, the fact that their historic trends are strongly distorted by the building of the pipeline, and the problem that their development is strongly affected by as yet unmade federal decisions. We can sympathize with their feeling that this process may be inappropriate to them. Nonetheless, if they wish to continue receiving federal wastewater funding, there is a need for some rational decision-making procedure on facility siting.

ARIZONA

Date of contract: August 8

Dean Hoes, Manager Planning Section Bureau of Water Quality Control Arizona Dept. of Health Services 1740 W. Adams St Phoenix, AZ 85007 602/255-1252	7/77 estimate: EPA projection: state's projection: projection submitted: (possibly 4,032,200) October 77 projection	2,206,000 4,169,000 within 5% of EPA ?? ??
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State Projections

Official state projections are prepared yearly by the Department of Economic Security. All state agencies are required to use those numbers.

Projections are prepared for the state and for each county using both economic and demographic assumptions. The councils of government in the state do projections below the county level, which are used in state programs.

The projections are reviewed and approved by a Technical Advisory Committee whose members include representatives of various state agencies, local governments, major universities, and Indian tribes.

Special Activities for EPA

Only one of the designated 208 agencies had projections greater than the state-produced control totals. That agency has revised its numbers to be consistent with the state numbers.

Extensive public hearings were held last summer, but except for the difference in projections mentioned above, the population projections were not the subject of any concern.

The state number and the disaggregations were submitted in November, 1978.



ARKANSAS

Date of contract: July 30

Chuck Bennett Grants Officer Construction Grants Department of Pollution Control and Ecology 8001 National Drive Little Rock, Arkansas 72219	7/77 estimate: EPA projection: state projection: projection submitted:	2,144,000 2,970,000 3,032,000 3,032,000
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State Projections

There were no official state projections.

Special Activities for EPA

Bennett is responsible for submitting the projections, but the 208 staff, a different section of the Department of Pollution Control and Ecology, are the ones responsible for preparing them. They, in turn, hired the Department of Local Services, which in turn hired the University to do the work.

The methodology used to produce the projections is fairly complicated, involving many rounds of negotiations with local and regional governments and planning agencies. According to the state, EPA regulations required that the state's 208 program use OBRS (BEA) state and substate projections prepared in 1972 unless those could be shown to be unrealistic. The state was working with EPA county projections, and was beginning to identify problems in parts of the state, where those projections were too low. Then in 1977 BEA published a revised projection for the state which was higher than the former and much more reasonable. They devised a disaggregation strategy beginning with this newer state projection, county estimates (or projections) from 1972 and 1975, and various comparative rates of growth and shares of the population.

However no county's projection was reduced below the 1972 BEA projection figures; thus, the original totals of the planning agencies in this round of the process exceeded the state projection as allowed by EPA. The planning agency projections were reduced roughly proportionately, although not in all cases.

Bennett was worried because the projections were actually done before EPA's guidelines came out, and so they were done only to the county and to the drainage segment (drainage basin), not to the community. He thinks that Arkansas has already submitted these projections to EPA, but he's not sure. Bennett was sure that the state had followed all public participation regulations, but he didn't know in any detail what it had done. There were numerous meetings all over the state, two advisory committees and two public hearings, but all these were on water in general, or water quality standards, not specifically on population. Bennett did not know of any involvement by environmental groups, or by local governments either, except for a few representatives on advisory committees. These projections won't be used for anything else.

Other Comments

Bennett expressed concern over the state's lacking projections down to the facility planning area for 208's and SMSA's, but it appears that he believed that these were due by October 1. Since they are not due by that date, the state seems to be able to meet the deadline, assuming, of course, that it meets the public participation requirements.

Date of contact: August 8

Robert Chung  
Office of Planning & Research  
1400 Tenth St.  
Sacramento, CA 95814  
916/445-7866

7/77 estimate: 21,896,000  
EPA projection: 26,786,000  
state's projection: 29,287,000 (baseline)  
projection submitted: 27,211,700 (lower projection)  
916/445-7866

State Projections

A state baseline projection is produced by the Population Research Unit in the Department of Finance. For the year 2000, the baseline projection is 29,287,000; one of the alternative projections for that year is 27,211,700 and there are other higher than the baseline. The latest baseline was released December 1977 and alternative projections were released July 1978.

These projections are purely demographic and are prepared at the state and county levels, the latter after some consultation with local planners. These numbers are used by some counties and some state agencies. There are no policy inputs.

Public involvement: There usually is none, although a public meeting was called by the Office of Planning & Research in early 1977 to discuss the baseline projection.

Special Activities for EPA

Although the Department of Finance prepares the baseline projection and although the State Water Resources Control Board oversees the water quality planning and construction grants programs, special activities to comply with the EPA guidelines are being carried out by the Office of Planning & Research.

OPR will not ask to use the state's baseline, but will begin with the state's lower projection which is within 5% of the EPA projection. OPR will, however, not use the disaggregation to counties which was prepared by DOF together with this lower projection, known as "P-75".

State policy, consistent with the Governor's Urban Strategy, is that state agencies should use council of government projections, when those projections have been reviewed and approved by OPR. The state has six designated 208 agencies, which are also councils of government (COG's); of these, all but one prepare their own projections. The remaining COG's cover most, but not all of the state, and generally use the DOF projections.

The sum of the COG projections plus DOF projections for non-COG counties is greater than the 27,211,700 projection. In order to use this projection, to preserve the state's commitment to using COG projections, it appears that the state will use the allowed 10% variances for designated 208 agencies.

OPR has been working on a continuing basis for several years with representatives of other state agencies to develop state policies on the use of projections. Also, the Department of Finance briefs state agencies on their projections.

OPR plans to discuss the proposed disaggregations with the designated 208 agencies and is in regular contact with the Sierra Club on this issue. They expect the public meeting to be held sufficiently quickly that the disaggregations can be submitted to EPA not long after the October 1 deadline.

Date of contact: August 10

Jerry Langin-Hopper  
Division of Planning  
Department of Local Affairs  
1313 Sherman, Room 520  
Denver, CO  
303/839-2351

7/77 estimate: 2,619,000  
EPA projection: 3,868,000  
state's projection: 77  
projection submitted: 4,373,000  
(includes some variances)

State Projections

The Division of Planning produces projections for the state. The last official set was released in April 1976. A preliminary revised set was released in 1978 for comment; provisional projections were issued in early 1979, and a final set will be released in August, 1979.

The projection is basically an econometric one. The state does not have good demographic information since the 1970 census, particularly on interstate migrants. The projections are trend projections; although there has been much discussion about state growth policy in recent years, none has been developed.

A state statute requires agencies not using Division of Planning projections to get their approval, but this is not well enforced.

Special Activities for EPA

The state's interagency executive committee which oversees the 208 process set up an oversight committee and a technical committee to comply with the EPA guidelines on projections.

When the projections prepared by designated 208 agencies were reduced by about 10%, and added to state-produced figures for other areas, the total roughly equalled the state's "central projection."

The state believes that energy development on the western slope of the Rockies is likely to produce significantly more growth than the EPA projection. In late July, the state submitted a request to use a projection of approximately 4,373,000 for the state, which is 3,868,000 plus the 5% "allowed" by the regulations, plus 312,000. This includes 10% variances for the designated 208 agencies. Their projection assumes 22,000 oil shale workers and 10,000 coal workers in their Region XI planning area in the year 2000. This projection was worked out together with local governments, councils of government.

They issued a public notice through the A-95 review process in newspaper advertisements, and in a mailing to a few citizens groups which have expressed interest. The public meeting is scheduled for September 6.

Disaggregations were not submitted to EPA at the same time. The state has a "fall-back" disaggregation in the event the state variance request is rejected. The state regards these numbers as being produced only for EPA and they will not be used for other purposes.

Other Comments

Zero Population Growth Colorado, in a letter to EPA dated August 20, is requesting a public hearing on the proposed variance for the state. They raise the following points:

\* the variance request of 312,000 attributed to energy resource development presumes that the President's synthetic fuels program will be passed and that Colorado will meet those production goals - this despite great controversy around the country and within the state. The projections should not assume this development unless and until this program becomes a reality.

\* the projections assume that all new jobs mean immigration to the state and that none of the jobs would be filled by Colorado residents.

\* the State Department of Planning itself is of the opinion that these projections should be developed including political considerations, not simply technical ones. Full public participation is, therefore, very important and needed.



Dates of contact: August 17 and 20

Terry Schure, Asst. Director Comprehensive Planning Division Office of Policy & Management 80 Washington St. Hartford CT 06115 203/566-3905	7/77 estimate: EPA projection: state projection: projection submitted:	3,108,000 3,741,000 3,773,800 3,773,800
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Fred Banlick  
Water Compliance Unit  
Dept. of Environmental Protection  
State Office Bldg.  
165 Capitol Ave.  
Hartford CT 06115

State Projections

A set of projections for the state and disaggregations were prepared in November 1976 by the former State Planning Council, whose responsibilities have now been assumed by the Office of Policy & Management. The latter is currently preparing revised projections using a combination demographic and econometric model.

The legislature adopted a procedure for developing a State Plan of Conservation and Development; public hearings were held, the legislature reviewed the text, and it was adopted in May 1979. This forms the basis for the policies which are being incorporated in the current set of projections. Those policies include land and water use, preservation of agricultural lands, and others. The projections will be open for review by substate governments for another two months.

The public has been involved through the regional planning councils, which in Connecticut are state agencies, and through public meetings.

Special Activities for EPA

All water quality planning in the state, including that of designated 208 agencies, has used the 1976 projections and their disaggregations.

Banlick will look at how the 1976 projections were adopted to see whether a public meeting is now required. He expects he will simply resubmit the 1976 projections. Schure indicated the state will want to resubmit the numbers when the current revisions in the projections are completed.

DELAWARE

Date of contact: August 8

Jerry Esposito Water Resources Section Department of Natural Resources and Environmental Control Tatehill Building Dover, Delaware 19901 (302) 678-5609	7/77 estimate: FTA projection: state's projection: projection submitted:	582,000 841,000 less than 9% of EPA same
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State Projections

There is a state Population Consortium, an informal group that is accepted as the state's official population and economic estimating group. It has variable composition -- anyone can come -- but includes representatives from state agencies, county planning departments, cities, and Delaware (Del.-Md.-Va.) Power and Light.

The state projections were done in 1975 to the county level through 1995 by the University of Delaware, Division of Urban Affairs. They did not include economic variables to any great extent. The Consortium contracted with the University to extend these projections through 2000, but this isn't particularly more accurate, according to them, just an extension of the old projections.

They have two designated 208 areas. For coastal Sussex County, in 1977, the Division of Urban Affairs prepared subcounty projections. This involved preparing a projection for the whole county, which was much less than the other official projections. The consensus of the Consortium was to use the new figure, and subtract the difference from the state total, which brings the state total even farther below the EPA projection. The county had wanted to keep the original higher numbers.

Special Activities for EPA

Until shortly before we called, the state had been unaware that their number had to be within 5% of EPA. At the last meeting of the Consortium, this was brought up, and people were worried because the state number was lower than EPA's by more than 5% and thought that this might be prohibited by the guidelines. The state had not yet spoken to EPA about this.

If EPA says they have to hold a public meeting, they'll do so. They have put off dealing with disagreements to facility planning areas, though it's been brought up and is on the Consortium's workplan for next year.

Other Comments

They were not aware that it is perfectly within the guidelines for the state figures to be more than 5% lower than BEA's, but they hadn't asked EPA yet.

We had difficulty locating anyone who knew about the process. We spoke to people in both 208 and construction grants who did not know what was going on, one of whom even assured us that no one in the state was working on this.

Although the state became aware of this process rather late, it should not be difficult for it to comply with the October 1 deadline because it has preexisting projections.

FLORIDA

Date of contact: August 9

Eugene Nowak Environmental Administrator Bureau of Wastewater Management and Grants Department of Environmental Regulations Twin Towers Office Building 2600 Dolar Stone Road Tallahassee, Florida 32301 (904) 488-2582	7/77 estimate: EPA projection: state projection: low: medium: high: projection submitted:	8,652,000 15,069,000 11,909,110 13,671,350 15,401,600 14,857,004
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State Projections

In 1978 the Bureau of Economic and Business Research (BERB) of the University of Florida prepared three sets of county projections using demographic methodology.

Special Activities for EPA

The EPA projections were disaggregated to counties by computing each county's share of growth from 1970 to 1977 and then projecting that same share of growth up to the EPA totals. These numbers were taken to seven public meetings around the state in early January. The participants included local planners, regional planning councils, Zero Population Growth, and several state agencies. The state received 26 requests for deviations covering fifty or more of the state's 67 counties. These requests were analyzed by an ad hoc group consisting of Nowak, the head of 201, the head of the non-designated 208 group, and the chief demographer from the Division of State Planning in the Department of Administration. The requests were in most cases accepted if the projections were used in the past, and were used for other planning functions. Thus, considerable changes were made, and the numbers finally submitted to EPA in April, 1979, and accepted by EPA in June, totalled less than the EPA projections, but more than the BERB medium figure.

Other Comments

In submitting the projections Florida requested the opportunity to reevaluate them if their use should be extended to other federal agencies. If any significant regional departure from them should be experienced or expected, and after each census. These conditions were accepted by EPA.

Florida was the first state to submit its projections, yet it managed while acting quickly to hold an extensive set of public meetings resulting in quite considerable input, especially from regional government and also from other state agencies. This input was taken seriously and resulted in real changes in the projections.

GEORGIA

Date of contact: August 15

Tom Wagner  
Office of Planning & Budget  
270 Washington St., SW  
Atlanta GA 30334  
404/656-7191

7/77 estimate: 5,068,000 (see below)  
EPA projection: 7,053,000  
state's projection: 7,053,000  
projection submitted: 7,405,650  
(exactly EPA + 52)

State Projections

The Office of Planning & Budget produces official state projections. The most recent set was issued in September, 1977. The projections are demographic ones at the county level, and totals for the state are compared with an independently produced projection for the state. They include no Goals, and are "baseline" trend projections.

Special Activities for EPA

The Office of Planning & Budget has circulated a proposed methodology for doing the disaggregations to local governments, designated 208 agencies and other state agencies, and they have come to a preliminary agreement. The method used will weight three components: a demographic method, an econometric method, a straight line trend approach, with a ratio method added as perhaps a fourth factor.

As of our telephone discussions, they were beginning to produce the actual disaggregations, which would also be circulated widely.

OPB will coordinate the public meetings with the Environmental Protection Division of the Department of Natural Resources; at least two meetings would be scheduled. Thus far non-governmental organizations have not been involved in the disaggregation proposals.

OPB will not allow other state agencies to use these numbers except for EPA programs. The original estimates are not consistent with the state's official estimates. The BEA projections include accommodation for the census undercount in 1970, a factor not taken into account by state projections. Their own state projections include other details such as age, race, and sex which are used by other programs and not available from the EPA procedures.

If the numbers produced are not initially acceptable to substrate governments, the state may be several months late in submitting the disaggregations to EPA.

Other Comments

The question of population projections is much more highly politicized in Georgia than, to our knowledge, in any other state. Conflicts in particular between the Atlanta Regional Commission, a designated 208 agency, and the state and EPA have been going on for many years. These conflicts are the subject of much press coverage and public debate, and the different projections are also involved in at least one pending lawsuit regarding a proposed highway expansion.

The current projection of the Atlanta Regional Council for the year 2000 is approximately 3.5 million, while the state's projection for that area in the same year is approximately 2.4 million.

HAWAII

Date of contact: August 8

Robert Schmitt  
Dept. of Planning & Economic Development  
P.O. Box 2359  
Honolulu HI 96804

7/77 estimate: 895,000  
EPA projection for 2000: 1,366,000  
state's own projection: 1,225,900  
projection submitted: 1,225,900

State Projections

Hawaii's Department of Planning & Economic Development prepares official projections at the state and county levels which are used by all state agencies and were used in the water quality planning process. The last set was released in March, 1978 and was submitted to EPA in December, 1978 as part of the 208 plan. There are no plans for an update until after the 1980 census.

They base their projections on economic assumptions plus assumptions about fertility. Both the state numbers and disaggregations to the county level include some considerations of growth policy and land use. For example, they assume a leveling off of tourism to zero growth in the year 2000. The question of the population projections is highly political and intensely debated.

The public is involved through Hawaii's Commission on Population and the Hawaiian future, composed of nine members, seven from the public, one from state government (Schmitt) and one from the Dept. of Defense.

Special Activities for EPA

Schmitt recalls no particular discussion of the projections in the context of public hearings on the "208" program.

The state appears to have done nothing new in response to the process.

Other Comments

The state's projections include ships' crews and navy personnel while the EPA projections do not. Therefore if a comparable basis were used by the two agencies, the difference between the projections would be even greater.

IDAHO

Date of contact: July 24

Mike McHesters Senior Environmental Quality Specialist Municipal Construction Grants Section Department of Health and Welfare Division of Health and Welfare State House Boise, Idaho 83720 (108) 384-2433	7/77 estimate: EPA projection: 1,181,000 state projection: Boise State Univ: 1,300,000 projection submitted: 77
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State Projections

Boise State University has a projection. The Department of Water Resources has county-wide projections. The Department of Planning, Budget, and Policy Affairs has five year projections.

There is a committee of representatives of the Bureau of Policy Planning and Development, the governor's office, the Department of Water Resources, the Department of Health and Welfare--Division of the Environment, ETA, and personnel from Boise State University, which is trying to establish a methodology for a uniform set of state population projections for state planning, but this methodology is probably several months down the road.

Special Activities for EPA

There is a water treatment needs survey projection from 1978, to be revised in 1980. This doesn't include rural areas. It is extrapolated from the 1970 Census and the 1977 population estimates. Mc Hesters indicated that this number is little more than 5% too high, though it is not clear to us what that means since the number doesn't include rural areas. They are still not clear what they are doing about the present process; they still do not have a lead agency.

McHesters indicated that hearings would be hard to get in, maybe not till the first of the year, and they might have to ask EPA for permission to be late.

Other Comments

The state at the time of our contact was seriously behind in complying with the process. According to Mc Hesters there had been no effort until the last three months. And that doesn't seem to have settled much. But they do have projections for the non-rural areas in the needs survey; so they might, with some work, be able to prepare some acceptable projections. However it is unlikely that there will be time for more than a minimal public and local participation. These seem especially significant because there are areas of the state which have been showing extremely rapid growth and for which any projections are likely to be controversial.

ILLINOIS

Date of contact: August 20

Mitch Beaver, Manager Planning and Standards Section Division of Water Pollution Control Illinois EPA 2200 Church Hill Road Springfield, Illinois 62706 (217) 782-3462	7/77 estimate: EPA projection: 11,245,000 state projection: 12,358,000 projection submitted: 12,735,000
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State Projections

The Bureau of the Budget has prepared disaggregations for eight or nine years with updates in 1973, 1975, 1976, and 1977. 1979 figures are expected soon. Doing it this often has been a little disruptive. The goal eventually is to disaggregate every two years. These projections go to the county level and are the official ones used for all state planning. They use a combined demographic/econometric methodology.

Special Activities for EPA

The 1977 disaggregations were within 3% of EPA, so they are being used. Beaver is coordinating the process, though Bureau of the Budget will hold the public meeting and probably do the official submission. In the 208 process they contracted out to the University to do disaggregations to the township level using combined methodology. The disaggregations were then taken to the regional planning commissions. The Northeastern Illinois Planning Commission (the Chicago area) went to most of its municipalities; there was more controversy in that area than elsewhere.

Environmental groups were involved through 208 plan involvement; they are represented on advisory committees.

Date of contact: August 13

Jeff Feller  
Water Pollution Control Division  
State Board of Health  
1330 W. Michigan Street  
Indianapolis, Indiana 46206  
(317) 633-0735

7/77 estimate: 5,330,000  
EPA projection: 5,772,000  
state projection: EPA + 5.7%  
projection submitted: same

State Projections

The State Planning and Services Agency had been involved with projections at one time. Indiana University has prepared projections to the county level based on demographic methods and in the late fall may be carrying these to the township level.

Special Activities for EPA

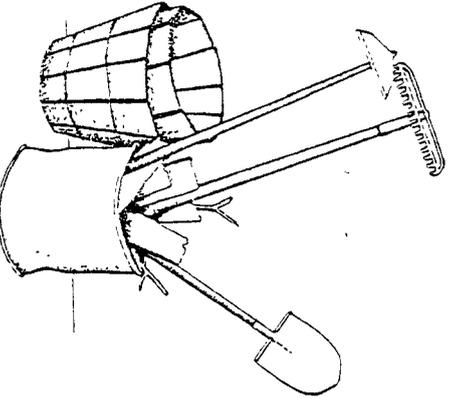
The Board of Health has adopted and used the University county projections. They applied least squares regressions to carry them to municipalities, and the expected Indiana University township level projections will give a more secure base for doing this. For carrying projections down to lower levels there is a contract with Holcum Institute.

The state projection is 5.7% greater than EPA's, and so in June they officially requested a variance, as well as issuing notification of a public meeting September 5. They took the numbers to public policy advisory committees for each region. They received some verbal criticisms but no written comments. They also met with people in each region.

Other Comments

Because the Board of Health handles this process, they need numbers that are good for health uses too. But the Highway Commission and Department of Natural Resources probably won't use these projections because they have their own.

If the variance is accepted, they should have no trouble meeting the deadline.



Date of contact: August 1

Joe Lynch, Head  
Water Quality Planning Section  
Chemicals and Water Quality Division  
Department of Environmental Quality  
Henry A. Wallace Building  
900 E. Grand  
Des Moines, Iowa 50319  
(515) 281-8957

7/77 estimate: 2,679,000  
EPA projection: 3,101,000  
state projection: 3,188,797  
projection submitted: ?

State Projections

The State Office of Planning and Program (OPP), which is essentially an arm of the governor's office, has done other projections in the past.

Special Activities for EPA

OPP took a long time preparing the projections for this process; Lynch wasn't sure why. In mid-July the Department of Environmental Quality got the disaggregations to county and SMSA, which they sent to the regional planning agencies and asked them to disaggregate and return by the middle or end of August. The agencies had not previously been informed that they would have this task.

Lynch hoped that the disaggregations would be ready for a public meeting of the Water Quality Commission in September. He doubted that they would make the deadline, but they would come close.

Des Moines, the only 208, has a greater projection than OPP's, and they may want another 10 or 15 thousand over the OPP projection of 390,000. One other SMSA was also unhappy with its number, and it was not clear what they would do.

No other state agencies are involved. The facility planning area projections won't be used for any other purposes, but he presumes the OPP numbers will be. He didn't know of any public participation so far. There has been no local government involvement till now.

Other Comments

Lynch indicated that he had only been in his present job for three months, and that Dennis Vaughn, a staff worker under him, would be more knowledgeable (same address, (515) 281-8953).

KANSAS

Date of contact: July 31

Norma Sandberg mid-level engineer Dept. of Health and Environment Forbes Field Topeka, Kansas 66620 (913) 862-9360 ext. 251	7/77 estimate: EPA projection: state projection: projection submitted:	2,326,000 2,517,000 2,629,160 2,629,160
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State Projections

In 1977 the governor ordered that no state agency could prepare population projections except for the Division of State Planning and Research of the Kansas Department of Administration. These aren't ready yet, and in the interim the Department of Health and Environment is allowed to use their 1976 projections from "303" water basin plans, but it is not clear to what degree they may revise them.

Special Activities for EPA

The official projections may not be ready in time for the deadline and may not be within EPA's limits; so Department of Health and Environment decided to prepare their own projections for counties and cities using extrapolation from the 1970 Census and the 1976 Census Bureau estimates. Because the Census 1977 estimate already exceeds the EPA 1980 projection, it was decided to use the EPA figures plus 5% as control totals. The Department has no demographic expertise, and so these projections were prepared by Sandberg, an engineer.

Sandberg emphasized the weakness of these numbers and the worry that someone else might use them for another purpose. In particular, there is a 14% difference between the new figure for the Kansas City 208 and that of MARC, the Council of Governments). MARC is currently preparing the new projections, and Sandberg guessed that the correct number was probably somewhere between. In late May they sent out a draft of their numbers. On July 2 there was a public meeting, and a comment period from then till July 16, though they were still accepting comments at the end of July. The numbers were sent to regional planning commissions, the Kansas League of Municipalities, consulting engineers, etc., but not to the interested public, environmental groups, or population people--because the official projections are expected soon, she said. They intend to wait till the last minute for submitting to EPA. They intend to give EPA the new official numbers as soon as they are ready.

Other Comments

Sandberg pointed out the weakness of the projections may not be as much of a problem as it could be, because for three years the state has had a strong population policy in terms of reviewing grant applications.

KENTUCKY

Date of contact: July 25

Shelby Jett Chief of the Programs Branch Division of Water Quality 1065 US 127 South Department of Natural Resources and Environmental Protection Frankfort, Kentucky 40601 (502) 566-9410	7/77 estimate: EPA projection: state projection: Louisville: Spindletop: Battelle Lab: projection submitted:	3,658,000 4,224,000 4,287,000 4,506,952 4,606,794 4,287,000
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State Projections

Before EPA's regulations came out the governor had directed the University of Louisville Urban Studies Center to prepare projections. They took the 1970 census data and did a revision using 1977 estimates. Previously there had been projections prepared for the state's Department of Transportation by Spindletop in July, 1971 and used for the river basin report in 1975. Jett thought that the Department of Transportation might prepare their own in the future, or else might use the University of Louisville's.

Special Activities for EPA

The Division of Water Quality looked at the University of Louisville projections in light of the Construction Grants program and saw few impacts. They are less than 5% off from the EPA numbers. The state notified EPA of the figures. They held a public review period for which they notified all municipalities from early May to mid-June. One of the 15 area development districts has its own projections which it wants to use, but the state can't let them because the numbers don't agree and the projections don't really affect them anyway because they are in steps 2 and 3 of grants, and won't need a new projection until after the 1980 Census. One 208 area is disaggregating itself. One is no longer designated as a planning area; so the state is disaggregating it. No other state agencies have been involved.

The disaggregation will be included in the public hearings on the 208 plan. They've held six public meetings on 208 plans, which included projections. There were fourteen groups that were in various ways involved with 208 meetings, including Sierra Club, League of Women Voters, Appalachian Plants, a couple other environmental/public interest groups, and seven area development districts. Each of these districts contains an environmental committee. Five hundred attended the meetings, but few spoke on projections. They expect to submit the disaggregations in early August.

These projections will be used for non-point source pollution planning by the Division of Conservation and for solid waste by the Division of Hazardous Materials and Solid Waste Management.

One 208 area may use the 10% variance. The projections throughout the state are prepared to the facility planning area level.

Other Comments

The state had precising projections so that it was easy to meet EPA's deadline.

LOUISIANA

Date of contact: July 25  
7/77 estimate: 3,921,000  
EPA projection: 4,659,000  
State projection: 77  
projection submitted: 77

Dale Givens  
Assistant Chief  
Division of Water Pollution Control  
Department of Wildlife and Fisheries  
PO Drawer FC  
University Station  
Baton Rouge, Louisiana 70893  
(504) 342-6163

State Projections

There are several sets of county level projections including ones done by the University of New Orleans, and another university (Louisiana State University).

Special Activities for EPA

The State Planning Office has prepared county projections. These were aggregated up to basins which are larger than counties except for a few water quality limited segments. These numbers are used in "303" water basin plans, as well as in 208 plans, though it was not clear whether 208 plans already exist or were being prepared.

Givens did not know the state numbers compared with EPA. He indicated that they were trying to stay within 5%, but that they may not be able to and may need a variance. He assumed they would submit in September. There are eight citizen advisory boards and one other board. There have been two public hearings, one on a summary of part of the 208 plan. Some local people complained that their projections were too low, but there had been no written response on population.

Except for the Department of Wildlife and Fisheries and the State Planning Office, no other state agencies have been involved with the disaggregations, and they won't be used for any other purpose.

Other Comments

We had some difficulty locating the responsible person, being referred from one person to the next.

MAINE

Date of contact: August 13  
7/77 estimate: 1,085,000  
EPA projection: 1,222,000  
State's projection: none  
projection submitted: EPA + 4.3%

Bob Numan  
Dept. of Environmental Protection  
State House  
Augusta, ME 04333  
207/289-2591

State Projections

The State Planning Office produces projections for the state. They currently do not have any for the year 2000, but expect to produce such in six to nine months.

Special Activities for EPA

The State Planning Office was unwilling to produce the projections and disaggregations to meet the required EPA deadline, so compliance with the EPA guidelines is being met through projections developed in the Dept. of Environmental Protection.

The state has told the EPA regional office that the projections which will be submitted are "interim" ones and that the state plans to resubmit numbers (with a possible variance request) as well as disaggregations in the future.

Projections are produced by regional planning commissions covering the state, some of which are designated 208 agencies. When these projections are totalled they sum to "significantly more" than the EPA number. DEP plans to reduce the projections of those regional planning commissions which are not designated 208 agencies in order to get a state total within the EPA projection + 4.3%.

DEP plans to circulate the proposed projections to some other state employees and to local governments before submitting them.

There are no plans for a public meeting.

MARYLAND

Date of contact: August 3

Larry Fogelson Administrator 3 (Applications person rather than demographer)	7/77 estimate: EPA projection: state's projection:	4,139,000 5,583,000 within 1%
Maryland Department of Planning 301 W. Preston St. Baltimore, Maryland 21201 (301) 383-2465	projection submitted:	same

State Projections

Department of Planning has been doing state projections for more than ten years, using a demographic model. They are trying to be on a two year schedule, although they have been somewhat irregular in the past. There is no law that anyone must use their figures (though there are thoughts of enacting one), but they have tried to get them adhered to with some success. But other agencies may use other figures. The Health Department produces short-range forecasts.

Also, since 1966 they have required county water and sewer plans that say where and when service will be. They don't have statutory authority, but the state share of sewer funding gives some leverage. Their procedure is to develop county totals. If a county uses a number different from theirs, they want to talk, and their leverage through grants gives a de facto power of approval.

In the future they anticipate a more open and cooperative method for all planning areas -- an advisory group of state agencies and counties, lots of chance for local input. In counties where the county's own total doesn't agree with the state's, they will have to have negotiations over the subcounty totals. They have submitted pieces of their projections over time since last fall, and EPA approval will be at varying times, by drainage basin.

Special Activities for EPA

They are using their preexisting projections, meeting public participation requirements by including the projections in 208 plans; there are 11 or 12 non-designated area hearings over this summer. In designated areas they negotiated acceptable numbers. Apparently there has been no response from the general public, environmentalists or population groups.

Other Comments

It sounds like the state has a long-standing serious projections effort that will meet the deadline with no trouble. It is not clear, however, to what degree the public has an opportunity to be genuinely involved.

MASSACHUSETTS

Date of contact: August 27

Madeleine Snow, on behalf of: Linda Simlo, Planner Dept. of Environmental Quality Engineering 100 Cambridge Street Boston, MA 02202	7/77 estimate: EPA projection: state's projection:	5,782,000 6,614,000 6,668,000?
	projection submitted:	7,054,067?

State Projection

In 1975, the then-existing Office of State Planning prepared a projection for the state for the year 2000 of 6,668,000 and disaggregated the projection to the level of the thirteen regional planning agencies.

The projections at the state level were demographic projections.

No single set of projections was used by all state agencies. However, former Governor Dukakis instituted a policy of having consistency, and Governor King has continued that policy. However, there is no state agency currently dealing with projections except for those with environmental planning responsibilities.

Each of the regional planning agencies considered the projection and in some cases revised it slightly, then disaggregating further to smaller geographical areas. They were required to hold meetings with local elected officials and consulted with citizens advisory committees.

This process was part of implementation of a state Growth Policy Act, passed in 1975, and which resulted in a Massachusetts Growth Policy Report issued in September 1977. Extensive meetings and discussions were held throughout the state at all levels of government.

At the local level, the projections apparently reflect a commitment to revitalizing of cities and towns, curbing of sprawl and protection of agricultural land, and thereby incorporate policies, not simply trends.

Special Activities for EPA

The total of the projections finally adopted by the regional planning agencies is 7,054,067 for the year 2000. Of the thirteen regional planning agencies, nine were designated 208 agencies over at least part of their areas. The projections developed as above were used in the 208 water quality planning, both by the designated agencies and the state.

The Dept. of Environmental Quality Engineering is now double-checking the projections with local governments and is using a computer system of the Division of Air and Hazardous Materials. After this rechecking and review the state will then decide whether or not it needs to request a variance from EPA; the current projection of 7,054,067 is slightly more than 5% greater than the EPA projection.

(Massachusetts)

After the process is completed, the state is planning to produce a booklet giving all the final agreed-upon projections, which will then be used by all state, regional, and local governments in their work.

Other Comments

Massachusetts is to be commended for its comprehensive growth policy process and the extent of citizen and local government participation.

However, since the state's Office of State Planning is no longer in existence, we hope the state will find a way to continue its process of preparing state projections.



MICHIGAN

Date of contact: August 14

Ron Wilson Chief of Water Quality Management Planning Section Department of Natural Resources 517/374-9437	7/77 estimate: EPA projection: state's projection: projection submitted:	9,129,000 10,314,000 10,504,000 10,504,000
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Larry Rosen  
Office of the Budget  
Dept. of Management and the Budget  
Lewis Cass Building  
P. O. Box 30026  
Lansing, Mich. 48909  
517/373-7910

State Projections

The Department of Management and the Budget (DMB) released a set of county level projections March, 1978, prepared using a demographic model.

Special Activities for EPA

The DMB figures are 1.85% over EPA's and will presumably be submitted without change. The entire state is covered by 14 designated areas, each of which did a disaggregation in preparing their water quality management plan. All but three are within the DMB figures, and those three are revising as a condition of EPA's 208 plan approval.

Public participation had not yet been worked out, but would probably be done by MMR. Wilson indicated that there was a chance that public participation might delay the state beyond the October 1 deadline.

Other Comments

There is a good chance that these projections will be used by all state programs; they at least must be satisfactory for the whole MMR.

It is our understanding that the person most centrally involved in the process in Michigan is David Hilstein, at the same address and phone as Rosen, who was on vacation at the time of our survey.

It seems like the public participation, whether or not completed in time for the October 1 deadline, is being done more or less as an afterthought.

MINNESOTA

Date of contact: August 16

Douglas Hall  
 Facilities Section  
 Minnesota Pollution Control Agency  
 1935 W. County Road B-2  
 Roseville, Minn. 55113  
 612/296-7241

7/77 estimate: 3,975,000  
 EPA projection: 4,505,000  
 state's projections:  
 original: 4,652,800  
 revised: 4,529,800  
 projection submitted: 4,529,800

State Projections

There is a state demographer in the State Planning Agency who since 1975 has prepared projections down to the county level. Recently some revisions have been made to this total. It is well within 5% of EPA. The projections are based on "current trends and sophisticated modeling".

Special Activities for EPA

The projections were submitted to EPA a year and a half ago and approved then. Hall was not aware that any public meeting had been held; so a meeting is probably necessary before these numbers can be resubmitted.

In the one designated area, Minneapolis-Saint Paul, the metro council has developed projections down to the township level.

In 1974-76 projections were prepared for cities and townships where a sewage treatment need was identified.

Other Comments

Assuming that it schedules a public meeting promptly, the state should have no great trouble meeting the deadline, but this is only because it had preexisting projections. We spoke to people in 201 and 208 agencies who had never heard of the process, and Hall himself seemed unaware that there was a public participation requirement.

MISSISSIPPI

Date of contact: July 25

David Lewis, Chief  
 Munic. Facilities Section  
 Bureau of Pollution Control  
 Department of Natural Resources  
 P.O. Box 827  
 Robert E. Lee Building  
 Jackson, Mississippi 39205  
 (601) 354-2550

7/77 estimate: 2,389,000  
 EPA projection: 2,760,000  
 state projection: 77  
 projection submitted: EPA plus 5%

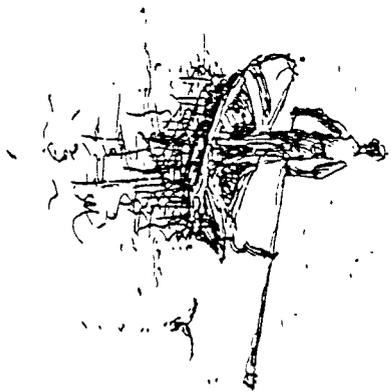
State Projections

Lewis didn't know specifically what other projections existed in the state, but he keeps running into them for lots of cities and chambers of commerce. Also, the state maintains a "cap" projection under which all planning is done, but there are several different disaggregations.

Special Activities for EPA

The agency preparing disaggregations is the Research and Development Center of Mississippi. Last fall the state asked for a 5% variance and got it. They felt this was a little low, but was easier than applying for a bigger variance. Then they disaggregated to counties using a combined methodology. They may be having counties disaggregate themselves further; we are not clear. No other state agencies are involved in the process. The projections will be used only for water quality programs (208) and are already being used. They sent EPA a copy, they thought, last September. The final official submission, with a few minor modifications still under preparation, will be by October 1, probably around the first of September. The delay is because they've just had a reorganization and they want to give the new commission time to get oriented before they ask it to approve the projections.

They will probably schedule public meetings with municipal associations and the environmental advisory group (Audubon, Sierra Club, etc.). There's a public meeting scheduled for early September for the overall state 106 plan (water quality plan for the following year) because the projections are to be updated yearly. In spring there were public meetings on 208 plans including projections which were almost the same as the current ones. They've received no comments on projections.



MISSOURI

Date of contract: August 1

John Howland Division of Environmental Quality Department of Natural Resources P.O. Box 1368 Jefferson City, MO 65101 314/751-3241	7/77 estimate: EPA projection: state's projection: projection submitted:	4,801,000 5,225,000 77 77
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State Projections

In the '60s the Highway Department issued projections for transportation purposes (and these were used five years ago in the "303" water basin plans). The State Office of Administration, which is the state planning agency, issued projections to 1980 and 1990, and recently contracted to the University of Missouri to prepare projections to 2000. Their previous projections have been demographic; so it is likely that these are, too.

Special Activities for EPA

There were projections in the 1980 needs survey presented to Congress in February, 1979, and at first they were going to use these. But then they found out about the office of Administration's new projections and decided to use these. They still do not know how large the 2000 projections will be, but the 1980 and 1990 projections are within 5% of EPA. They should receive these soon.

They will then give these to the 208s, who are already under contract with continuing 208 funds to disaggregate the county totals and submit their figures to the Governor by September 26. These figures are on the agenda for the September meeting of the Clean Water Commission; they will discuss what they know by then, and this will be their statewide public participation. In addition, the 208s will submit their disaggregations to their own boards.

Other Comments

No one else will be using the facility planning area disaggregations, but other state departments will probably use the Office of Administration's county figures.

It sounds like they will meet the deadline.

MONTANA

Date of contract: August 9

Phil Brooks Research and Information Systems Division Dept. of Community Affairs Capitol Station Helena, MT 59601 406/449-2896	7/77 estimate: EPA projection: state's projection: projection submitted:	761,000 802,000 935,000 77
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State Projections

The Department of Community Affairs is the only state agency producing population projections, and other state agencies therefore presumably use theirs. The projection is a demographic and econometric model at the county level; the state projection is the summation of those.

An entire series of projections was produced about a year and a half ago. A more recent set also has been issued.

Special Activities for EPA

Because of various communications problems, the state has only recently begun the work necessary to comply with EPA guidelines.

Because the guidelines specify that projections available in June, 1978 must be used, the state will use its projections available at that time even though that projection's forecast for 1980 was exceeded by the estimate for 1978. The even larger updated state projection will be used as part of the justification for the variance request.

The DCA is only beginning to compare the projections used by the four designated 208 agencies with the state's own projections. In the event that they differ, it has not yet been decided how they will be reconciled.

Various substrate planning agencies will be consulted during the process.

The state expects to finish the process no later than the October 1 deadline in the guidelines.

Other Comments

Montana was one of the states in which communications problems with EPA and within state government caused the process to not be begun until summer, 1979.

NEBRASKA

Date of contact: August 8

Susan Hoppel Natural Resources Commission P.O. Box 94876 Lincoln, Nebraska 68509 402/471-2081	7/77 estimate: EPA projection: 1,561,000 state's projection: 1,734,000 projection submitted: 1,728,163 ? within 5% of EPA
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State Projections

The State Office of Planning and Programming (previously renamed Policy Research Office) handles projections. The above listed state projection was sent to us by a citizen contact as the medium series of their 1976 projections. There may be a more recent one. The actual work seems to be contracted to the University of Nebraska Bureau of Business Research.

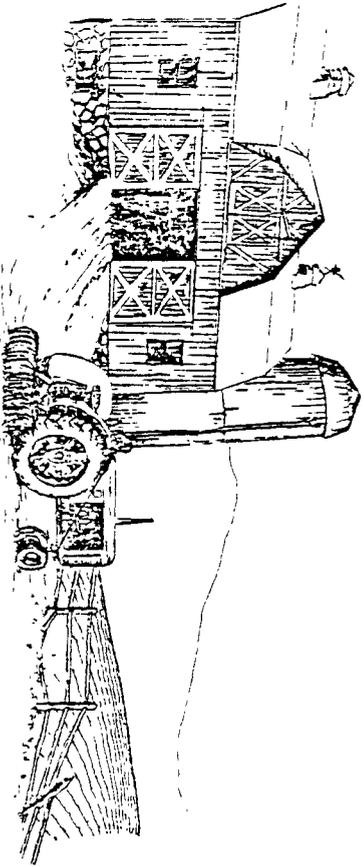
Special Activities for EPA

OPP's most recent update was done under the 208 planning process. The projections go to cities (roughly equivalent to facility planning areas) and counties.

Although she is the person coordinating the process, [Hoppel] was unaware of the regulations until a week ago, and did not know about the public participation requirements. The 208 process involved many hearings, but none specifically on population.

Other Comments

Presumably they can meet the deadline by promptly scheduling a public meeting. It is conceivable that their 208 process may already have satisfied the requirements technically, but it surely does not sound like an effective vehicle for public participation if those attending were not notified of the connection of the hearing with this process.



NEVADA

Date of contact: August 7

Bob Ripshy Senior Urban Planner State Planning Coordinator's Office Capitol Complex Carson City, NV 89710	7/77 estimate: EPA projection: 633,000 state's projection: 1,141,000 projection submitted: 1,585,000
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State Projections

In September, 1978 the Governor issued an Executive Order assigning responsibility for preparing projections for use by all state agencies to the State Planning Coordinator's Office. Before that time, several agencies prepared projections.

The model is a demographic and econometric one for the counties, and the projections are summed to the state level. The last set was published in December 1978. Local governments were not very involved in the development of these projections.

Special Activities for EPA

The state requested a variance at the end of April. A notice was published in the three major newspapers and sent to each major city and other state agencies. There was no response to the newspaper notices.

He is working with the three designated 208 agencies to reconcile the projections.

Disaggregations to the county level were submitted to EPA but only in tentative form. They will hold perhaps three public meetings in September prior to submitting the final disaggregations.

Other Comments

Nevada was the first state to submit its request for a variance and is to be applauded for having dealt with this so much sooner than many of the other states which are only now submitting such requests.

The notice of the request which was published in the newspapers might have gotten some response had it also been sent to environmental groups, which appears not to have been done.

Date of contact: August 17

James McLaughlin Office of State Planning 1112 Beacom Street Concord, NH 03301 603/271-2155	7/77 estimate: EPA projection: state's projection: projection submitted:	849,000 1,306,000 1,207,000 1,207,000
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Also: Dave Nevill, Water Supply &amp; Pollution Control Division

State Projections

The Office of State Planning produces demographic projections at the state and regional levels; projections for municipalities are then produced using land-use information. There are no policy assumptions used. A major revision was issued in August 1977.

Regional planning agencies are involved in preparing the projections, with some input from the towns. Other state agencies are also involved, but not the public. All state agencies use these numbers.

Special Activities for EPA

There is a working agreement between OSP and the Water Supply and Pollution Control Division. The facilities planning level is in most cases the same as the town level.

The three designated 208 agencies have used the OSP numbers.

McLaughlin was unfamiliar with the EPA projections guidelines, but is in the process of getting more details from the Water Supply & Pollution Control Division.

Other Comments

New Hampshire was one of the states where the state's own projection is less than EPA's and there is already use of those projections in 208 planning - and as a result none is paying much attention to the guidelines. Neither of the two people we spoke with was very familiar with the guidelines. However, except for a possible need for a public meeting it would appear to be very simple for the state to comply by simply formally submitting its projections.

Date of contact: July 23

Joseph Wiley Office of Aesthetic Planning Division of Water Resources Dept. of Environmental Protection 1474 Prospect St. P.O. Box CM 029 Trenton NJ 08623	7/77 estimate: EPA projection: state's projection: projection submitted:	7,329,000 8,747,000 9,066,000 9,066,000
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State Projections

Demographic projections are prepared by the state's Department of Labor and Industry. These were adjusted upwards to reflect potential development in two particular urban counties, resulting in a projection for the state of 9,066,000.

Special Activities for EPA

Originally, the state had trend disaggregations which were being reviewed by citizen advisory committees. In the middle of the process it was changed to be a policy-oriented process, with the state producing projections which reveal its intentions, to be followed by public review of those intentions.

Three policy assumptions are guiding the disaggregations: Urban areas should stabilize their populations at the 1975 levels. Undeveloped areas should have a drastic cutback in their rates of growth. Suburban areas should continue their current moderate growth rates. The state is considering possibly using the projections which arise from these assumptions to channel state investment.

These projections were released and sent to EPA in June 1979 in draft form.

Although some of the projections prepared by designated 208 agencies are greater than those produced by the state for this process, the state will not request variances and the 208 agencies will need to revise their projections. Public meetings on the projections will be combined with hearings on the 208 program.

Other Comments

Although at least one interested citizen attempted in early 1979 to find out who in the state was responsible for compliance with the EPA guidelines on projections, he was unsuccessful despite having made six or seven calls. At that time, staff in both the Dept. of Environmental Protection and the Governor's office (which has nominal authority) stated they were not the appropriate agencies.

Nevertheless, New Jersey appears to have been the most farsighted and innovative in its use of the guidelines. It remains to be seen how the citizens advisory committees and others in the state react to the projections being developed and the assumptions underlying them.

Contact date: July 25, 1979

Catherine Callahan Section 208 Project Manager Environmental Improvement Division (EID)	7/77 estimate EPA projection: state projection: projection submitted:	1,190,000 1,436,000 EPA + 23% 77
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Health and Environment  
Department  
P. O. Box 968  
Santa Fe, New Mexico 87503  
(505) 827-5271 ext. 297

Stephanie Kruse  
Planner II  
Water Quality Planning Unit  
Environmental Improvement Division  
Health and Environment Department  
P. O. Box 968  
Santa Fe, New Mexico 87503  
(505) 827-5271 ext. 368

State Projections

The Health and Environment Department had contracted for the Bureau of Business and Economic Research (BBER) of the University of New Mexico to prepare projections through 1990 to the county level using a demographic model.

Special Activities for EPA

For this process EID contracted with BBER to extend its projections to the year 2000 and to the level of wastewater facilities planning areas. For disaggregating to planning area, BBER will have an economic analyst who will introduce some economic factors. The state feels they have a good demographer who knows the state well and does projections for uranium companies.

The county level projections were due in mid-July, though they were overdue as of July 19. These were then to be sent to GOC's, development districts, and those counties which were expected to be particularly interested. The responses were then to be sent back to BBER, who would then complete planning area level projections by September 15. Public hearings were then to be held in the last two weeks of September, and then the projections were to be approved by the Water Quality Control Commission, which meets only infrequently, at their next meeting. Officially the state was planning to meet the October 1 deadline, but gave indications that they were aware that this was unlikely. Possibly they will submit draft figures by this date and final figures soon after, though EPA has specifically written them that this procedure is unacceptable.

Upon inquiry as to why the contract with BBER was written with such a late deadline, EID indicated that it was "between a rock and a hard place." EID has no demographic expertise and in the past has done only perfunctory population work. BBER was essentially their only contractor, but would not commit itself to an earlier date. Looking at the consequences of lateness (step 1 grants would be delayed, but the state has few step 1's coming), they decided to be late and to have good projections.

The state has had a troubled correspondence with EPA concerning procedures for requesting a variance. In May of 1978, the state wrote to the Regional Administrator requesting to use the BBER low series year 2000 projection, which is 23% higher than the BFA year 2000 projection. In June of 1978 EPA wrote back requesting the state to submit a justification and documentation of public notice for this variance request. In September 1978 the state sent to the Regional Administrator a copy of a letter from BBER critiquing the BFA projections, but apparently no information regarding public notification or the basis for their alternative projection. EPA at last replied to this in May of 1979 by again requesting justification and documentation of public notice. It is currently the state's intention to submit the request for a variance at the same time as it submits its disagreements. This is at least partly because the state feels that it is difficult to present further justification without specific numbers.

There had been no formal public participation to date, though the state had been contacted by two Sierra Club people and a few others. Also, they had briefed their 208 policy advisory committee which had sent back comments.

Other Comments

One line of reasoning for requesting the large variance is that the state claims that EPA's number does not take into account energy development: uranium, coal, oil, and gas. The BBER critique of BFA's methodology argues that:

- 1) BFA's projections were based on estimates of per capita income which were revised subsequent to the release of the population projections;
- 2) The projections prior to adjustment for underenumeration in the 1970 Census were too low, but the estimates of underenumeration for New Mexico, the largest in the country, were so large as to render all estimates questionable.

It might be borne in mind, however, that energy development in such an arid environmentally sensitive area is highly debatable. Rather than being a foregone conclusion, it will depend on various national and state policy decisions which have yet to be made.

It might be noted that since the entire state is one 208 area, the requirements for meeting the October 1 deadline would seem to be simply submission of a projection for the entire state, as well as for all SRA's. The planning area projections would not be required until six months afterwards, and even then only when the state requests step 1 grants. Thus, it would seem that if the variance is approved, the state should be able to meet the October 1 deadline, but if the variance is rejected, the state will be late.

NEW YORK

Date of contact: July 26

Charles Harrison Dept. of Environmental Conservation Room 406 50 Wolf Road Albany, NY 12233 518/457-4208	7/77 estimate: EPA projection: state's projection: projection submitted: (includes some 10% variances and some projections for 1995)	17,924,000 18,922,000 19,596,000 19,823,000
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State Projections

The state's Commerce Department regularly prepares projections for the state, multi-county regions, and counties. The most recent set was released in January, 1978. All state agencies are required to use these projections

The projections are demographic ones, prepared initially at the county level and summed to a projection for the state.

There used to be an interagency planning committee which oversaw the development of the projections.

Special Activities for EPA

As part of developing the state's 208 program in non-designated areas, the Dept. of Environmental Conservation prepared projections for Minor Civil Divisions (towns, cities, etc.) in the 67 non-designated counties, working with county planners. Projections for parts of the state were reviewed by the 13 Policy Advisory Committees prior to submission to EPA and hearings were held around the state. Some of these projections are for 1995, that having been the planning period for some of the substrate agencies.

Each of the state's six designated areas prepared its own population projections. DEC has compared its own projections with those produced by the designated areas. Nine counties among the designated ones have projections which are greater than the state's and five of them have projections within 10%; their numbers have been certified on the condition that they revise them to match the state's projection under specified timetables. Four have projections more than 10% above the state's; although their numbers have been certified, they cannot be used during the interim and must revise them to match the state's under specified timetables.

The state is preparing a handbook of Guidelines for engineering consultants on how to prepare projections for facilities planning areas to be consistent with EPA requirements. This handbook describes the EPA regulations, how the state prepared disaggregations, the role of infrastructure in affecting growth, and their analysis of problems with the EPA requirements.

According to Mr. Harrison, the certified projections were submitted to EPA in fall, 1976.

Other Comments

We have seen a draft of one of the sections of the handbook being prepared (see above) and think New York state should be commended for its preparation. It is only when such materials are made available to governments, consultants, and the public that policies on population projections and some understanding of the impact of their use can be widely shared and debated.

Although we do not necessarily agree with all the comments made in the draft, we wish all states were preparing such reports

NORTH CAROLINA

Date of contact: July 30

Steven Wardrup Social Research Assistant 2 Department of Natural Resources and Community Development Division of Environmental Management P.O. Box 27687 Raleigh, North Carolina 27611 (919) 713-5251	7/77 estimate: EPA projection: state projection: high: low: projection submitted:	5,525,000 7,619,000 7,538,000 7,080,000 range of 7,080,000 to 7,538,000
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State Projections

There are two agencies that do most of the state's population work: the Division of Environmental Management for federal programs, and the Division of Administration for in-state use. These each developed projections. DEM is consistently higher, which comes from a philosophy that it's better in environmental planning to overproject. There were other previous projections not used in this process.

Special Activities for EPA

It was decided that the state should submit a range rather than a single projection, and EPA approved this. Even the high projections for all counties total within 5% of EPA. They had just finished the projections for all counties, held public hearings, and were going to send the projections in soon.

They did two sets of independent projections for the counties. The Division of Administration used demographic methods while DEM used econometric methods. In February and March they held seven public hearings on 208 plans. Population was included as a separate agenda item in these. People had until June 30 to submit comments. They received comments on twenty of the hundred counties, most from regional planners, none from the public or environmental groups. Projections to facilities planning areas are handled by local governments as needed.

Other Comments

There is no state uniform policy on projections, but there has been an informal agreement for last ten years to use these projections for all environmental planning. Before submitting the projections they may submit them to the Environmental Management Commission for approval, and this would be useful as a step towards establishing uniform statewide projections.

Date of contact: August 13

Francis Schwandt  
State Health Department  
1200 Missouri Avenue  
Bismarck, ND 58505  
701/224-7354

7/77 estimate: 653,000  
EPA projection: 690,000  
state's projection: within 5%  
projection submitted: same

Richard Blair, Director  
Office of Statistical Services  
Department of Health  
State Capitol  
Bismarck, ND 58505

State Projections

According to Blair, the state had a program to produce population projections, but appropriations ran out in June, 1979. Several years ago they produced nine demographic projections, with varying fertility and migration assumptions, down to the regional planning and county levels. An interim set of state numbers were issued, which might still be used by most agencies. There are no official state numbers.

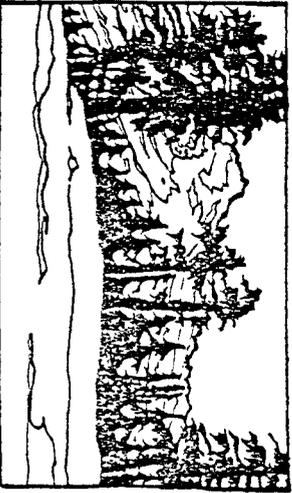
Special Activities for EPA

According to Schwandt, projections were developed as part of the 208 process by local agencies, presumably the eight regional planning councils, one of which is a designated 208 agency. State-developed guidelines were used to produce those projections.

Eight public hearings were held on the 208 plan and no others are scheduled. The projections in the 208 plan total to within 5% of the BEA number.

Other Comments

We could not determine the relationship between the earlier set of state-produced projections and the ones being used in the 208 process.



Date of contact: August 13

Eva Hottelmann  
Ohio EPA  
Office of the Planning Coordinator  
361 E. Broad St.  
Columbus, Ohio 43215  
614/466-8860

7/77 estimate: 10,701,000  
EPA projection: 12,031,000  
state's projection: 77  
projection submitted: less than 5% over EPA

State Projections

The state has 1974 and 1978 HUD projections and a set done by a consultant for the Department of Health (this last used a combined methodology). Other agencies have opted for one set or another. To meet HUD requirements this situation must be resolved by September 1, and negotiations are under way. Ohio EPA's (a state agency) is the only projection with strong local input.

Special Activities for EPA

There were preexisting 208 projections in the designated areas, but these were much too high; they took up 90% of the state's growth, so Ohio EPA prepared new projections. They started with the EPA total plus 5% and did a cohort survival projection for counties to this control total.

They then submitted these projections to designated agencies and advisory councils for each river basin. They let the regional councils revise them as long as they maintained a regional control total. All but two of them fell outside the allowed range, and so were forced to revise downward.

The Dayton metro area requested a 200,000 decrease. They documented it well, so Ohio EPA granted it. If a county or region could document a change from the projection, it was accepted.

This process took nine months, but this state agreed on county totals, except for three or four counties which they are still working on. They had very thorough local review and local input. They then used their data base to develop figures for the facility planning areas. They have just produced those and sent them for local review to the non-designated areas. Designated areas are preparing disaggregations for themselves.

The submitted number will be close to 5% over EPA's projection, but the exact total is not known yet, because there are two regional agencies left to deal with.

The advisory committees include most environmental groups, and the state technical advisory committee includes the Sierra Club, League of Women Voters, etc. The only non-governmental groups to respond have been chambers of commerce, universities, and some people who do projections.

They used a demographic model for the county projections because they did not have adequate data for econometric models for rural areas, but some regions that had good data used econometric models for their further disaggregations.

They will meet the October 1 deadline for county level projections. They expressed concern that they would not meet that deadline for facility planning area projections, and indicated that this was a matter of concern for them due to some regulations on "forming designated management agencies".

Other Comments

The state appears to be doing an exceptional job of getting local involvement, which they take seriously but not uncritically. They are aware of the mix of demographic and political issues involved and are working towards workable compromise.

Date of contact: July 20

David Blackford (208 project manager) Chief of Environmental Programs Department of Pollution Control P. O. Box 52504 OKlahoma City, Oklahoma 405/271-4677	7/77 estimate: EPA projection: state's projection: projection submitted:	2,811,000 3,396,000 EPA + 5.42 ??
--	---	--

State Projections

The Oklahoma Employment Security Commission (OESC) was designated by the Governor to prepare projections, originally for noting employment trends. They have several years experience and use combined demographic/economic methodology.

Special Activities for EPA

The 201 program broke down projections to hydrological boundaries when different from political ones.

The OESC projections are 5.42 higher than EPA's.

They are preparing their work task for this process now. They don't know which agency will actually be preparing the projections; Blackford hoped that OESC would take the contract, but if not probably it would be Department of Pollution Control. Blackford expressed uncertainty whether the state would meet the deadline. They apparently have been delayed in starting by uncertainty over what they have to do.

Blackford expected that they would request a variance, though that was not decided.

Local governments will not be involved much till the 201 process.

Other Comments

It is hard to tell whether they will succeed in meeting the deadline or prepare reasonable projections, because at the time of contact they essentially had not started or even figured out what they were doing. It will be very difficult under these circumstances for them to achieve any significant public involvement.

Date of contact: July 31

Tom Lucas Supervisor Water Quality Planning Department of Environmental Quality P. O. Box 1760 Portland, OR 503/229-5284	7/77 estimate: EPA projection: state's projection: projection submitted:	2,376,000 3,209,000 3,301,000 ??
--	---	---

State Projections

The Portland State University Center for Population Research prepares county level projections for use by all state agencies. Their medium projection is within 5% of EPA's.

Each of the 277 local jurisdictions is required to follow projections approved by the Land Conservation and Development Commission for sewers, water, transportation, etc. Only 46 of these have been approved to date. The submission deadline is not till July 1, 1980, and some may be late.

Special Activities for EPA

The state spent a long time in virtual paralysis on this process laboring under the mistaken belief that they needed facility planning area projections by October 1. Apparently it was our phone call on July 24 which informed them that they did not need these, and rationalized them into action. They decided to use the Portland State medium numbers for non-designated areas, and the 208s own projections for the four 208s. Although there is a problem with one of the 208s: the Central Valley area (Salem) has projections that are 55% higher than the Portland State medium; and it is not clear what will be done there.

Notices for public hearing or meetings were to go out the first week of August.

Lucas indicated that though he was fairly knowledgeable about what the state was doing, there was no individual officially in charge.

Other Comments

Oregon has been extremely fast in getting construction grants obligated, so that there may not be any projects on the priority list till next year. This would mean that the state might not take the October 1 deadline as seriously as others.

It appears that the state will meet the deadline with an adequate set of projections, but this is sheer luck, since as of July 24, they had no idea how they would meet it.

PENNSYLVANIA

Date of contact: August 6

Ken Barcal Department of Environmental Resources (DER) Fulcom Building P. O. Box 2063 Harrisburg, Pennsylvania 17120 (717) 787-3681	7/77 estimate: FTA projection: state's 1973 projections: state's 1977 projection: projection submitted: 77	11,785,000 12,365,000 LPA + 11.9% consistent with JFA
--	--	---

State Projections

The Office of State Planning and Development (OSPD) in the Governor's office has general responsibilities for developing projections. Their 1973 projections used the same methodology as BEA and the National Planning Association, and have been used in their comprehensive planning. As a result of comprehensive water quality planning, the 1973 numbers were disseminated virtually to facility planning areas. The strategy for the 1973 county and local projections was to begin with OSPD county projections. Then the state negotiated with regional and county planning commissions, who played a major role in local projections. It took almost two years.

The 1977 projections use fundamentally the same methods as BEA, but go only to the county level. OSPD's figures are not mandatorily used, but some agencies do use them. DER tries to use consistent projections for water quality and quantity, air quality, solid waste, etc. -- as far as allowed.

Special Activities for EPA

There was a period of floundering because of confusion over the regulations. It is not yet clear which set of OSPD projections will be submitted, because if they use the more recent ones, they will then have to prepare new disaggregations to facility planning areas, and it is felt that this is too big a task. The decision as to which set will be used will not include public input, but the state will provide the basis for the decision to the public so that it will be open to alter the fact comment. Either way, county and local governments are expected to object that their projections are too low.

Using the 1973 projections would require a variance request. Their principal procedure for public participation will be to issue a public notice in the Pennsylvania Bulletin (the state equivalent to the Congressional Record), indicating that DER intends to adopt, and recommend for certification by the governor, a set of projections. It would indicate that no public hearing or meeting is planned unless public comment indicates the need. There was extensive public involvement in the 1973 projections. If they should go to the 1977 projections, they would probably hold a meeting.

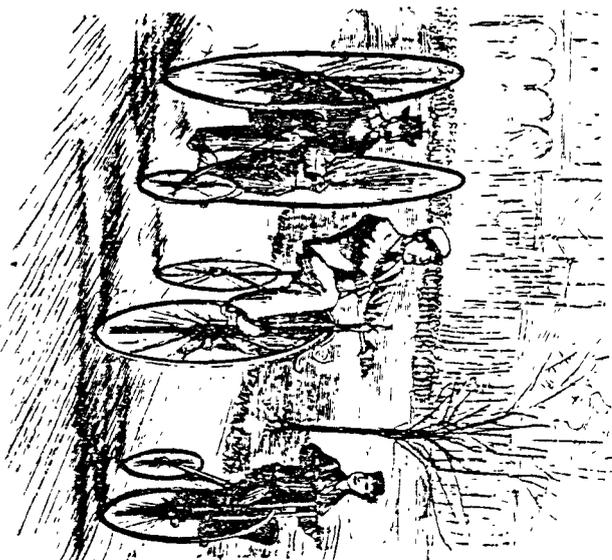
(Pennsylvania)

They had not thought about ways of involving citizens, environmental groups, or population people. The only area where they've had response is the Philadelphia area, where many responses are on population. Many are from local governments saying, "our figure is too low".

Other Comments

We are in contact with an activist who reports having contacted in February people in both DER and OSPD and being unable to find anyone working with the process at the state level. DER said that everything was being done at the regional level. We are concerned that this sort of misreading state response to citizen inquiries could have a dampening effect on public participation.

The state has had considerable difficulty due to confusions over what was required by the regulations. It appears that this has been solved, and the state will meet the October 1 deadline, unless it requests a variance and the request is rejected.



RHODE ISLAND

Date of contact: August 20

Greeter Symanski  
Office of State Planning  
265 Melrose Street  
Providence, RI 02907  
401/277-2656

7/77 estimate: 935,000  
EPA projection: 1,033,000  
state's projection: 1,005,600  
projection submitted: 1,005,600

Juan Mariscal, for Tom Bruckner,  
208 Project Manager

State Projections

The Statewide Planning Program produces projections for the state and for counties, cities, and towns. A set was issued in 1975 and a revised set in April 1979.

They use a demographic method at the state level and use a cohort/ratio method to produce city and town projections. The projections are strictly baseline projections, without policy inputs.

Other state agencies have not been involved in development of the projections. The program is guided by a technical committee and a planning council, both of which include local government people and private firms. Other than that, there is no public involvement.

There is an informal policy of state agencies using these numbers.

Special Activities for EPA

The 208 program is using the April 1979 projections.

Symanski was unaware of the EPA guidelines and referred us to Tom Bruckner, the 208 project manager. Bruckner was on vacation.

Other Comments

Because Mr. Bruckner was on vacation and apparently would have been the person most familiar with the guidelines, it was difficult for us to present a complete report on the state's process.

The current projections for Rhode Island show substantial population reduction in the city of Providence, and there appears to be some controversy over a facilities planning being designed for the city.

The problem of this population reduction might be dealt with more effectively if there had been more public involvement in considering whether or not the projections used should be "current trends" projections or not. Such a decision seems to have been made more or less automatically.

SOUTH CAROLINA

Date of contact: August 8

George Fowler  
Division of Research and  
Statistical Services  
(803) 758-2586

7/77 estimate: 2,876,000  
EPA projection: 3,700,000  
state projection: within 5% of EPA  
projection submitted: same

Webb Linbach  
Department of Health and  
Environmental Control  
2600 Bull St.  
Columbia, South Carolina 29201  
(803) 758-3877

Charles Jeters  
Head of Division and Industrial  
Wastewater  
Department of Health and Environmental  
Control

2600 Bull Street  
Columbia, South Carolina 29201  
(803) 758-3877

State Projections

For several years the Division of Research and Statistical Services has done projections for the state. They've talked most closely with the 201 and 208 people in the Department of Health. Their projections are within 5% of EPA's figures. They are demographic and to the county. Environmentalists are not involved with this agency, which describes itself as "intentionally a bit ivory-towerish."

Special Activities for EPA

A draft of the county projections was about to be released. They will hold a public meeting towards the end of September. For facility planning areas, they'll leave it to the cities and counties to negotiate reasonable numbers.

SOUTH DAKOTA

Date of contact: August 10

Jim Neilson	7/77 estimate:	689,000
Deputy Division Director	EPA projection:	730,000
Division of Water Management	state's projection:	797,000
Joe Foss Bldg.	projection submitted:	77
Pierre, SD 57501		
605/773-4523		

Dick Gebhart  
State Planning Bureau  
State Capitol  
Pierre, SD 57501  
605/773-4599

State Projections

In December, 1978, the State Planning Bureau published a set of three projections for the state through the year 1990. Using the same model, they have produced a projection of 797,000, which corresponds to the lowest of the three projections. They begin with demographic projections at the county level and sum to get a state projection. The process was overseen by an interagency population task force.

Until January, there was a directive that these projections be used by all state agencies, but the administration changed and that directive is no longer in force.

Special Activities for EPA

The Division of Water Management has contracted with the State Planning Bureau to produce a projection for the year 2000. As of 8/27, the latter has not yet formally sent its work to the Division of Water Management.

Originally, the latter had believed, based on an earlier set of projections done only through the year 1990, that the EPA projection was within the range of the three official ones for the state. However, if the final State Planning Bureau number is in fact 9% larger than the EPA number, as it appears to be, the Division of Water Management will then have to consider whether to request a variance or simply use the EPA number.

Mr. Neilson expects the public meeting to be combined with some 208 hearings.

Other Comments

South Dakota is only now beginning to consider how it will comply with the guidelines. As a result, the results might be prepared on a rush basis without adequate consideration.

TENNESSEE

Date of contact: August 8

Bob Alexander, Chief	7/77 estimate:	4,299,000
Water Quality Planning Section	EPA projection:	5,573,000
Tennessee Division of Water	state projection:	within 5% of EPA
Quality Control	projection submitted:	same
Department of Public Health		
Suite 309		
Capitol Towers Building		
c/o Jnd Rodney		
Nashville, Tennessee	37219	
(615) 741-2275		

State Projections

The State Planning Office disaggregated the "Bureau of Economic Analysis 1976 Series F population projections" to county, 201 area, and river basin.

Special Activities for EPA

The Planning Office projections were included in 208 hearings held by the Water Quality Control Division from mid-February to March, though they were not emphasized.

The 208 plan containing the projections was submitted by the Planning Office on August 18, 1978. The state's disaggregations to facility planning areas are used for facility planning except in Memphis, where the 208 agency had already developed their own projections.

Other Comments

We are in contact with a member of the 208 citizen's advisory committee, who reports having been totally unaware of hearings concerning projections. This citizen's advisory committee, thus, does not seem to have been an effective vehicle for public involvement.

There seems to be some confusion of responsibilities between the Planning Office and the Water Quality Control Division.

TEXAS

Date of contract: July 19

Herb Grubb Director for Planning and Development Department of Water Resources P.O. Box 13087 Austin, Texas 78711 512/475-3921	7/77 estimate: EPA projection: state's projection: projection submitted:	12,830,000 18,069,000 18,277,000 18,069,000
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State Projections

In the early '70s the Division of Planning and Coordination developed general planning projections for health, education, transportation, water, etc. They contracted the projections work to the Population Research Center at the University of Texas at Austin. They use a demographic model, and project to the county level.

Special Activities for EPA

For this process they have done a complete new projection for each county. They came three or four percent lower than EPA; so they normalized the counties proportionately. They didn't change the state total because they'd based a lot of other planning on it.

They issued the disaggregations to counties and told them to disaggregate to 208 areas. Except for the Beaumont/Port Arthur area they'd all been reconciled and certified by Grubb's office. Also the Victoria/Gaustal Bend non-designated area hadn't been settled yet.

They were virtually done with the process.

Other Comments

A local activist has sent us a copy of a letter from Dick Whittington, Deputy Director of the Department of Water Resources, February 28, 1979, indicating that Texas had submitted its projections to EPA on December 5, 1978. These projections were made by the Department and its predecessors in November, 1976, and reevaluated in 1977 to 1978, and are the total listed above as "state projection". This submission was not mentioned in our phone interview, and so we do not know the correct reconciliation between the information in this section and in the previous one.

The procedure described above of normalizing projections upwards sounds unfortunate. If the new projections reveal that earlier ones were inflated, it would be appropriate, in light of the expensive and irreversible consequences of over-sizing, to use this opportunity to institute lower projections for new planning, rather than to stick consistently to inflated figures.

UTAH

Date of contract: August 10

Jeanne Watanabe, Assistant State Planning Coordinator 124 State Capitol Salt Lake City UT 84114 801/533-4659	7/77 estimate: EPA projection: state's projection: projection submitted:	1,268,000 1,688,000 EPA + 35% ? EPA + 35% ?
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State Projections

Last year the Governor designated the State Planning Office as responsible for providing projections to state agencies. They have spent the past year revising a model used to produce a complete set of projections in 1977.

The projection begins at the multi-county level, which approximates labor market areas; these are also the 208 planning areas. The model has both a demographic and an economic component. There are no policy inputs; projects are not assumed unless the FIS is completed or construction has begun.

Drafts have been submitted to various state agencies for their comments.

Special Activities for EPA

Watanabe is developing the case for a variance and expects to submit it together with the substrate projections by the end of August. The EPA projection made certain assumptions about fertility trends which do not hold for Utah, and does not "appreciate certain economic changes" in the state.

The designated 208 agencies in the state used different methodologies and Watanabe has been working with their planners to compare the numbers.

The scheduling of the public meeting is contingent on the state's getting the requested variance. There are no procedures for how the state will prepare disaggregations if the variance request is refused.

The state has issued the required public notice about the request for a variance. However when an interested citizen called on August 17, he was told that no material was ready for him to look at regarding the amount of or justification for the variance.

Other Comments

Utah appears to be asking for the largest percentage variance by far of any state. However the state has so postponed this process that now, when they want to meet the deadline, they are apparently giving inadequate public notice. It makes no sense to announce a request for a variance but not have any materials to show individuals requesting information; that makes a mockery of the notice requirement.

The Sierra Club's Utah Chapter has asked EPA to hold a public hearing.

VERMONT

Date of contact: August 27

Steven Syz	7/77 estimate:	483,000
Water Quality Division	EPA projection:	607,000
Agency of Environmental Conservation	state's projection:	646,800
Montpelier, VT 05602	projection submitted:	646,800
802/828-2761		

Bob Warner  
 State Planning Office  
 Pavilion Bldg., 5th floor  
 Montpelier, VT 05602  
 802/828-3326

State Projections

Official state projections are prepared by the State Planning Office. The most recent set is the result of a process begun in October 1977. Drafts were distributed in 1978 and a set was published in June, 1979. This projection is 646,800 in the year 2000.

The projections are now used by all state agencies and local governments, although that was not the case in the past.

The projections use a demographic methodology, and are disaggregated to the county and town levels. Other state agencies were involved, such as the Department of Health.

Special Activities for EPA

The entire state is one designated 208 area. Because the state has no SWSA's, the EPA guidelines require them to submit only one number, namely the projection for the state.

On September 6 there will be a combined public hearing and meeting of the 208 board to discuss the projection as well as other water quality issues.

Although the projection was submitted to EPA in early August, Syz did not realize the state may have to request a variance. He is currently checking the guidelines to determine what the state will do.

VIRGINIA

Date of contact: August 8

Robert Gillette	7/77 estimate:	5,135,000
Economic Research Section	EPA projection:	6,755,000
Department of Planning and Budget	state's projection:	3.1x lower than EPA
331 9th St. Office Building	projection submitted:	same
Richmond, VA 23219		
804/786-7771		

State Projections

Department of Planning and Budget has responsibility for developing official projections to be used by all agencies. The statewide Economic Base Studies Program develops projections, which are sent out to 10 or 15 people in each county once a year. There is a series of meetings with local governments and planning commissions invited. Each planning commission is asked to contact local governments.

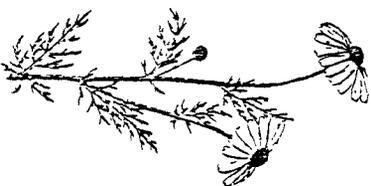
Their methodology is primarily economic and also demographic. The Research Triangle Institute is involved through a contract.

Special Activities for EPA

The State Water Control Board made the submission to EPA. The 208 is constrained to use Department of Planning and Budget's figures. The policy at the State Water Control Board is that when you submit one facility plan, you bring a plan for the whole county.

Other Comments

The state had a well enough developed system for state projections that they had no trouble meeting EPA requirements.



WEST VIRGINIA

Date of contact: August 13

High Edwards	7/77 estimate:	1,859,000
Water Resources Division	EPA projection:	2,003,000
1201 Greenbriar St.	state's projection:	none
Charleston, W.V. 25311	projection submitted:	2,036,319
306/368-5902		

State Projections

The Governor's Office of Economic and Community Development is supposed to issue official state projections, but said they would have nothing ready by the deadline.

Special Activities for EPA

The state didn't have any preexisting figures, so they were stuck with EPA's even though they thought the projection for 2000 was a bit low.

They used the 1970 Census and the revised 1976 population estimates, to the county level, and determined the increase for each area. They then extrapolated that same share of the growth for each area through 2000.

There's only one designated agency: around Charleston. It was more than 10% over the state-produced disaggregation, so the state limited it to 10%. We presume that this accounts for the difference between the EPA number and the submitted total. For two or three counties the Census Bureau estimates showed a population decrease, however, the final state projection showed them having constant population.

They have given notice for holding a public meeting. Up to this point there had been no participation by the public or local government except for the one designated area.

Other Comments

The state will meet the EPA deadline and requirements with no trouble, but public input will be minimal.

WASHINGTON

Date of contact: July 18, 25

Kathleen Garcia	7/77 estimate:	3,658,000
Planner	EPA projection:	4,417,000
Office of Water Programs	state's projection:	more than 5% over EPA
Municipal Division	projection submitted:	??
206/753-2971		

Jan Whitworth

Planner  
Comprehensive Programs Division  
206/753-2809

State Projections

The Office of Financial Management (OFM) does projections, disaggregated to cities and counties. The preexisting set was more than 5% over EPA, and although Garcia hadn't seen the new ones due July 1, she assumed they'd be even higher.

Most planning bodies use the OFM methodology and forecasts except the Puget Sound Coordinating Council and the two Seattle area designated 2089, which have developed their own.

Special Activities for EPA

They were behind schedule. Garcia had been on projections for only one month, and Whitworth, the other staff person involved, had started only July 17.

They will start with OFM's figures and coordinate with local projections. Their time frame:

- August 6: public notice on meeting
- August 16: release population projection data
- September 6: public meeting in Olympia

OFM's resident expert is demographer Donald Pittinger, of University of Washington.

An explanation proffered for the state projections being so much higher than EPA was that the EPA numbers were prepared during the Boeing slump, but now that Boeing is OK, and there is trade with China, the state is growing faster.

Other Comments

The overage in the state projections is concentrated in the Seattle area. This could be a problem because, according to one activist, Spokane is located over a designated Sole Source Aquifer, has urban population densities but rural plumbing.

The state's plans to release the population projections only three weeks before the public meeting allows inadequate public notice, particularly since there seems to be controversy in the state over projections.

There have been requests from the public for meetings in Spokane and in Seattle or Tacoma, since Olympia is a difficult site for people other than those employed by state government to get to.

Washington seems to be extremely late in implementing this process and negligent in involving the public, a situation especially unfortunate in light of the large and controversial variance request.

Date of contract: August 16

Randy Wade  
 Planning Analyst  
 Water Quality Planning Section  
 Department of Natural Resources  
 P.O. Box 7971  
 Madison, Wis. 53707  
 608/266-9265

7/77 estimate:  
 EPA projection: 4,651,000  
 state's projection: 5,553,000  
 projection submitted: within 5% of EPA same

State Projections

In 1974 the Department of Administration prepared three sets of projections to 2000. The medium state control total is within 5% of EPA. These seem to be demographic projections.

Special Activities for EPA

Each areawide was given a regional control total - the sum of all its counties. They then did independent projections to minor civil divisions and to service areas, all of which luckily came out within the Department of Administration's range. They then added up their own county totals which, Wade says, are better than the Department of Administration's.

Agencies used varying methods. One used an economic model. One used a share model. The Milwaukee areawide used a complicated combined model which included a test using the "normative land use plan". In at least one case the projections were part of 208 plans.

In non-designated areas, there aren't always projections for all minor civil divisions. But where these have been done, they usually all use the same "share" or ratio methodology-based on the share which the division has historically had of the county's population.

The numbers have not yet been submitted. Wade expected to meet the deadline, but he doubted that the public participation requirement had been met yet. He had not heard about it before our call.

The areawides have had local citizens' committees and meetings, but nothing on the areawide level. Many of these meetings, perhaps all, focussed on the whole 208 plan and not just projections.

The areawides involved local committees in their projecting. There is a state population council that reviewed the projections. Environmental groups have not been involved except on local and areawide advisory boards.

Other Comments

These projections will be the official state projections. Their use is not completed, but any plan that doesn't use them will be somewhat questionable (also factor). They will be used for water, air, transportation, and most other purposes.

The state used the population projections to prepare a twenty-year sewer plan governing all sewer facilities and extensions down to 8".

It sounds like the state is seriously committed to preparing and using projections.

Date of contract: August 9

Phil Kiner  
 Division of Research and Statistics  
 DAC (Dept. of Administration & Fiscal Control)  
 Room 302, Emerson Bldg.  
 Cheyenne, WY 82001

7/77 estimate:  
 EPA projection: 406,000  
 state's projection: 484,000  
 projection submitted: EPA + 20% or more

State Projections

This Division now produces population projections, having inherited the responsibility recently from another agency.

Projections are prepared at the county level using an economic and demographic model; the state projection is a sum. Projections were issued in November 1978 and July 1979 and are revised every six months.

Drafts of the projections are sent to cities and counties.

A Governor's memo requires other state agencies to use these projections.

Special Activities for EPA

Because of communications problems, the Division did not find out about the EPA requirements until very recently.

The state's own projection is approximately 20% greater than EPA's by the year 2000. The state is currently preparing the request for a variance for EPA.

Wyoming originally had three designated 208 agencies, but two have dissolved. Those two did have projections in their drafts.

If a public meeting is required, the state will comply. However, this Division does not usually schedule public meetings, and will probably work with the Department of Environmental Quality.

Other Comments

Wyoming was one of the states which began the process only recently. In order to meet the October 1 deadline, the state would have to have virtually no notification for the required public meeting. Perhaps if we had spoken directly with the Department of Environmental Quality we would have gotten a clearer picture of what was intended.

Wyoming's process of updating its projections every six months is the most often in the country. Perhaps Wyoming and several other rapidly growing needs need to work out special arrangements with EPA.

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## APPENDIX C

### GLOSSARY

In this section we try to define or describe some of the more technical terms used in the report.

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#### Types of Population Projections

We generally describe the projections used as being demographic, econometric (or economic), a combined approach or a ratio or trend projection (see section 3.5 and the State Reports). A demographic projection makes separate assumptions about fertility, mortality, and migration and calculates a future population. It is also called a "cohort-survival" or "cohort-component" projection.

An econometric projection begins with a forecast of jobs. Then, by making assumptions about the labor-force participation rate and the unemployment level, translates that into a projection of population.

A combined approach uses both demographic and econometric elements, and can be of various types. A common one bases the migration assumptions in the demographic model on that part of the projected labor force which cannot be met by locally-born individuals.

Some states use various kinds of trends or extrapolations, and continue an area's rate of growth into the future (see Idaho) or an area's proportion of the state's growth (see Alabama).

#### 201 Facility/ 201 Plan/ 201 Projection/Construction Grants Program

Section 201 of the Clean Water Act establishes a program of federal funding of 75% or 85% (in certain cases) of the construction costs of publicly owned sewage treatment facilities. The area which a particular facility is being designed to serve is the "facility planning area." The population projection used to plan the facility is the "201 projection." The plan is the "201 plan." Etc.

These facilities take care of "point sources" of pollution, i.e. those coming out of or from a pipe or similar area.

The program in EPA's Office of Water and Hazardous Materials which makes the grants for these facilities is called the Construction Grants Program.

### Population Projection/ Forecast/ Estimate/ Census

A census is an actual count of the number of people in an area. The next census will be taken in 1980.

An estimate is a guess of the number of people in an area prepared between censuses; it is based on any of a number of indicators of population change: births, deaths, construction permits, school enrollments, drivers' licenses, estimates of jobs, etc.

A population projection is a guess, or scenario, of how many people would live in a particular geographical area at some time in the future. It consists of base data (census or estimates, current and past fertility, migration, mortality, etc.), a model (demographic, economic, straight-line trend, etc.), and assumptions (What will the fertility be in twenty years? How many jobs will there be in this area?).

A projection is not necessarily a prediction; the latter is used when the person preparing a projection thinks that a particular projection is the most likely to happen. However one can prepare any number of projections, including those which one thinks involve assumptions unlikely to materialize.

A forecast is a projection which someone thinks is reasonably likely to come true. That is, the term involves more of a commitment of reasonableness than a projection.

A prediction is a best guess. As far as we can tell, no state agencies ever do population predictions.

A baseline projection is one which is used by official agencies and is regarded as the standard projection to be used, or one thought of as reasonably likely to occur if "current trends" continue.

### Disaggregation

A disaggregation of a projection is a division of one projection into projections for smaller geographical areas. So, for example, a state may prepare a population projection for the state and then disaggregate (or divide or allocate) to projections for counties.

### 208 Plan/ 208 Agency/ 208's/ 208 Level

Section 208 of the Clean Water Act requires states to develop plans to meet clean water standards. Sources of water pollution come from point sources and non-point sources. Examples of the latter are agricultural runoff and runoff from urban construction sites.

The plans, whether for entire states or parts of them, are called 208 plans.

The Governor of a state may choose - or designate - certain substate agencies to prepare the water quality plans for their geographical areas. Those agencies are called 208 agencies or 208's. Their geographical area is sometimes called the 208 level.

Although these designated 208 agencies in some cases are counties, more often they are multi-county planning agencies, which in different states have different legal statuses, sources of funding, roles, and responsibilities. They are known as:

- \* councils of government (COG's)
- \* areawide planning agencies
- \* metropolitan planning agencies or organizations
- \* associations of government
- \* area planning and development commissions (APDC's)

However not all agencies with the above names have been designated for 208 planning!

### Needs Survey

EPA conducts Needs Surveys every two years to determine what is still needed in each state to comply with various portions of the Clean Water Act. The cost of complying is also estimated. Population projections are, of course, used in determining and estimating the needs.

Surveys were conducted in 1973, 1974, 1976, and 1978.

### Step 1 Grants

Under the Construction Grants Program (see above), EPA makes grants in three steps for the construction of a sewage treatment facility. Step 1, the first, is a planning grant. Step 2 is for design of the facility and step 3 is for actual construction. The EPA projections guidelines refer to a deadline after which all Step 1 grants must use projections consistent with the guidelines.



APPENDIX D

EPA CONTACTS

Listed below are individuals in EPA headquarters and regional offices who can provide you with additional information about the EPA requirements and particular states.

EPA Headquarters

Cathy O'Connell, 202/755-8253 or 202/426-9404 (leave message)  
Facility Requirements Division (WH 595)  
Office of Water Program Operations, OWWM  
EPA  
401 M Street, S.W.  
Washington, D.C. 20460

Region I (CT, MA, ME, NH, RI, VT) - Boston

Roger Duwart, 617/223-5130  
Water Quality Branch

Region II (NJ, NY) - New York City

Beverly Reith, 212/264-1840  
EIS Preparation Branch, Water Division

Region III (DE, MD, PA, VA, WV, & DC) - Philadelphia

Gene Mattis, 215/597-3423  
Water Quality Management Coordinator

DE, MD, DC: Larry Merrill, 215/597-9966  
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# Population Projections

## How They Are Made... And How They Make Themselves Come True

JUDITH KUNOFSKY

FOR ALMOST fifteen years, the Sierra Club has acknowledged that population growth is a cause of all environmental problems. The environmental effects of the almost 220 million Americans are compounded by an annual increase of almost 2 million; the Census Bureau's "medium level" forecast foresees a total population of 296 million in 2025—only 47 years away. A growing population intensifies pressure on fragile land, contributes to pollution of air and water, provides the impetus for the urbanization of agricultural land and the construction of an ever-increasing number of power plants. While growth rates have declined both in this country and in many other parts of the world, overall population continues to increase.

The way we evaluate how fast the population size is changing, what programs might help reduce the growth rate, how bad (or good) the situation might be in the future is through the use of population projections. Moreover, for many programs with significant environmental impact—sewage treatment facilities, major water diversion projects, massive regional energy development—the population projection for the appropriate region is used to justify the project. Ironically, in many cases, using a projection this way actually helps bring about the growth that was foreseen. In other words, sometimes the projection causes the growth!

A population projection for a given geographical area states what the population size and growth rate would be at certain dates in the future. It differs from a population estimate, which is usually a statement about the past or current population of an area. Projections are prepared for the world, for nations, states, counties, cities and smaller geographical areas, and can be prepared with a variety of detail and sophistication. Some projections give only the total number of people; others describe distribution by age, sex and sometimes race, religion or other group identification. Population projections are prepared using different models, or mathematical formulations, that express different theories about why and how population size and growth rates change. For example, one might assume that a community's overall population will continue to increase at 1% a year. Or one might make separate assumptions about family size, mortality, fertility timing and migration, and apply those assumptions to a detailed breakdown of the current population by age and sex. Alternatively, one might relate population change to a projection of regional job availability.

A projection is not a prediction; even in theory, a projection

need not tell us what is most likely to happen. A projection reflects the consequences of a continuation of "current trends" and the extent to which the model chosen accurately mirrors the real world. The difference between them is that current trends always change, and they change, at least in part, as a result of our evaluation of and reaction to those trends. For example, approximately one out of five births in the U.S. is to a teenager. One might prepare a population projection based on this situation. However, one might feel that as a society we will adopt programs to change the trend, and therefore project a *reduction* in teenage parenting.

Population projections are based on much accumulated experience and are almost always prepared to reflect what are believed to be current trends. Of course, it is difficult to distinguish between a current trend and a short-term aberration in behavior, in fertility or migration. It is important to realize that it is *not* a question of an adequately prepared projection being right or wrong, but simply that the world is much too complicated for there to be a correct guess of the future.

Demographer Peter Morrison has written that, "Forecasting is least effective when it is conducted as an exclusively mechanical process. It is tempting to adopt an approved method, plug in some numbers, and crank out some more numbers that tell people what to do . . . It should be possible, however, to improve the odds on making right decisions not only by laboring to improve the models, but also by sharpening our ability to evaluate and assess the products of forecasting models. . . . Those who use demographic forecasts must exercise at least as much judgment as those who make them."

Population projections are used in three ways. Projections are used to give us an idea of population size and growth rates in the future. We can evaluate whether the U.S. has reached or will reach zero population growth, how fast our numbers might be increasing in the year 2000, what the contribution of immigration at various levels is to the U.S. population, the significance of the heavy migration to the Sun Belt, how fast Monterey, California, is gaining people or how fast another region is losing people. From these projections we can then evaluate the need for corrective or supportive actions, the wisdom of adopting various population policies to change or reinforce trends.

Projections also are used in determining the allocation of federal funding, the decision to go ahead with or to reject various federal, local and state projects. All major government investments—such as roads, dams, sewage treatment plants and

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sewers—attempt to solve current problems (such as water pollution), or may provide for additional capacity to continue to abate a problem or to anticipate a future problem. A new reservoir may, for example, provide for the anticipated water needs of a community that does not now have a water shortage.

In order to determine these future needs, the agency proposing a project prepares a projection of the quantities involved, whether they're quantities of water, untreated sewage or vehicles expected. In each case, an essential component of the demand projection is a projection of the number of people who will be living in the area in question or who will be served by the facility. The population projection is then used to determine whether a project is needed, where it should be located, how large it should be, the cost-effectiveness of the proposal and, finally, the amount of money to be made available by the appropriate level of government. Population projections, therefore, are crucial and indispensable factors in the evaluation of needs by communities and by government agencies with funding authority.

Population projections are also used in devising computer models that involve both population and economic projections. These models are used to estimate the effectiveness of proposed environmental controls. For example, a model may postulate various types of air pollutants emitted by different sources, factor in topography and weather conditions, then evaluate various strategies for meeting federal air-quality standards. Modeling can also be used to gauge the effect on population of proposed energy development, a new industrial facility or water development. But population projections are much more than a rather academic, statistical exercise. The projections themselves can have a tremendous effect on growth. This is because construction projects often foster the population and economic changes that were projected. In other words, if a community provides sewer hookups for a doubled population, people may move to that community—because there are sewer hookups.

This situation poses certain problems:

- Is it fair for a community that consciously or unconsciously submits an inflated projection to receive a bigger chunk of the tax dollars?
- The growth that is induced by an inflated population projection may reflect the desires of only certain special interests in a community.
- One federal program may undermine the goals of another, as when the federal government funds a sewage treatment plant to solve current water pollution problems, and the reserve capacity of that plant facilitates growth in an area that depends heavily on the automobile. As a result, auto commuting increases, and air quality gets worse.

Another example would be if a city with decreasing population were forced to use a projection reflecting only the "current trends," thereby aiding and accelerating the population decrease. This direction might be contrary to an established federal or state or local policy of rebuilding the city's population and industrial base.

Different government agencies have experienced different problems connected with population projections. In the abstract, these problems may seem almost impossibly abstruse, but case studies shed some light.

**Water Development and a Wilderness Study Area:  
The Forest Service and Medicine Bow  
National Forest, Wyoming**

THE U.S. Forest Service, within the Department of Agriculture, has been developing a management plan for the Huston Park Unit of the Medicine Bow National Forest in Wyoming. The unit is near the city of Cheyenne, and the key point of contention has been the extent to which the Forest Service will accede to the Cheyenne Water Board's request that land be reserved for further development of the city's water supplies. Some of the remaining areas within the unit were to be made available for study for potential inclusion in the National Wilderness Preservation System. The five options presented ranged from reserving one third of the acreage requested for potential water development to reserving all the acreage requested. In the area, the acreage requested for wilderness study ranged from none to 43,010 acres. The original choice made by the Forest Service was to reserve all the acreage requested for water development and to allocate 29,770 acres for wilderness study.

Substantial controversy arose, however, after publication of the Draft Environmental Impact Statement in late 1976. The Cheyenne Water Board had used a projection of 113,490 for Cheyenne for the year 2000, compared with 43,813 in 1973. However the Economic Research Unit of the Office of the State Planning Coordinator had projected a year-2000 population of 73,400 for the entire Laramie County, in which Cheyenne is located, of which about 60,000 would be in the city of Cheyenne. This discrepancy was noted not only by The Wilderness Society and the Wyoming Outdoor Council, but also by the Office of Industrial Siting Administration of the state and by the governor. Governor Ed Herschler wrote that, "The draft statement . . . fails to adequately address several important matters. . . . The discussion of the population projections and the increased demand for water resulting from the projected population should be more specific and definitive."

Objections were sufficiently compelling that in the final report, dated September 1977, the Forest Service had changed its recommended management plan to one allocating about half the requested acreage for potential water development and 36,840 acres for wilderness study. The city immediately appealed to the director of the Forest Service, and the matter is still being negotiated.

**Water Development and Hydroelectric Power:  
The Army Corps of Engineers in Alaska**

THE Army Corps of Engineers has proposed building a dam on the wild Susitna River in Alaska. If built, this would be the most expensive hydroelectric dam project in the Corps' history, with costs estimated between \$1.5 billion and \$6 billion.

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Corps analysts have admitted that, "by making assumptions about future populations and economic growth and then providing energy sufficient to sustain such growth, the initial projections may become self-fulfilling prophecy." But the project's environmental impact statement takes a different, more simplistic view, it claims that the population and industrial growth will occur whether or not the dam is built and that the increased availability of power will *not* stimulate industrial development.

The Corps did point out, though, that "by presuming that energy needs must be met, the opportunity to use the provision of power as a tool to direct growth toward socially desirable goals is foregone. In the absence, however, of any such generally accepted growth goals, it seems highly presumptuous to do otherwise than plan as to satisfy the energy needs required to sustain that level of future development deemed most likely."

The statement is somewhat circular, but it does point out clearly that unless we as a country begin to develop and articulate more clearly our national, regional and local population and development goals, the *de facto* growth policy will continue to reflect past trends—or the wishes of the most vocal and opinionated special interests.

If we are to use population projections intelligently and correctly—as planning tools rather than as pronouncements of unalterable preconditions—a few principles should be followed:

The federal government should continue to produce projections for the country as a whole that include a range of interpretations of current trends in U.S. population growth. Moreover the federal government should seriously consider producing alternative projections that present a more goal-oriented attitude towards U.S. population growth, i.e., that exhibit alternative population paths including fertility and migration assumptions that are not now regarded as current trends.

There is nothing wrong with the federal government continuing to produce a consistent set of population and economic projections for regions and communities, according to current trends (as does the Bureau of Economic Analysis for the Water Resources Council). However, population projections that are developed for use by the government in funding must satisfy the following conditions:

- Projections must be prepared using demographically acceptable techniques and must be periodically updated. This point should be no surprise.
- The sum total of all state projections used—or all projections for smaller geographical units—should be equal to or reasonably related to a projection of U.S. population. The sum of the parts must approximate the whole.
- Projections must take into account the relevance of goals as well as trends.
- There must be opportunities for input by state and local governments as well as the public.

- All federal agencies should use the same projections in a community or state.

Communities must be encouraged to prepare and use projections that reflect goals, not simply trends. This is particularly true for population distribution within a community but should also be true for population size itself. Implementation of the Clean Air Act, Clean Water Act and other national legislation has, in some communities, led to this type of innovative thinking, but this needs to be encouraged far more than it has been.

As the federal government improves its ability to articulate national policies for urban development, protection of agricultural land, water policy, housing, population growth and so on, these policies should be reflected in its population projections. There is good news about the federal government's use of population projections. The Environmental Protection Agency (EPA) has developed a new and environmentally sound process, one that follows the principles outlined above.

The EPA's process begins with the Census Bureau's "Series II" projection for the United States. This is the medium projection, the one most often quoted and used. It is the projection that gives a U.S. population in the year 2000 of 260 million—and one in which U.S. population never stops increasing. The Bureau of Economic Analysis (BEA) of the Department of Commerce periodically prepares a consistent set of population and economic projections for more than 600 geographical regions in the country, including each state. At EPA's request, the BEA divided the Census Bureau's single projection into 50 state projections. Each state would then divide its projection into a number of smaller projections for regions (such as those with water quality planning agencies—"208" agencies). Each region would further break down the projections for constituent counties, cities and sewage-facility planning areas ("201" areas). The available federal funding would be limited to 75% or 85% of the cost of a facility whose size would be determined by the EPA's population projection. Communities that wish to construct larger facilities could do so at their own additional expense.

The EPA procedure also includes provisions for reasonable exceptions and variations within strict limits. Environmentalists have praised the proposed EPA procedure because it involves a national overview of population projections, because states have an important role to play; and because communities can determine where and how they want growth to occur. Implementation of these regulations would go a long way toward remedying the problems involved in the use of population projections. But much would still need to be done: state governments and communities still have their own policies on how population projections are prepared and used. More importantly, the development of a community consensus on the most environmentally sound and socially beneficial projections for their area is a task that remains to be accomplished virtually everywhere in the country. □

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