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Title: A Proposed Model to Predict Population in Relatively Rural Areas Experiencing Rapid Economic Development

Abstract Approved: Frederick W. Obermiller

In this research a model is developed to predict population for relatively rural areas experiencing rapid economic development. Of the many ways to predict population size, in this research a "demographic-economic" model is chosen for use. The economic variables which aid in projecting population are total employment, and net changes in employment associated with economic growth. The model developed for this research is applied to Oregon's Northern Columbia River Basin Counties of Morrow, Umatilla, and Gilliam. Each county is or is expected to experience rapid growth in its agricultural and/or industrial sectors in the next few years. Using employment projections to the year 1990, population projections are made at five-year intervals between the years 1970 and 1990.

A Proposed Model To Predict Population In Relatively Rural Areas Experiencing Rapid Economic Development

by

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CHAPTER I

INTRODUCTION

Statement of the Problem

One of the most important consequences, and sometimes a major reason for support of local and regional economic development programs, is that growth implies new employment opportunities. Most communities consider new jobs to be a valuable asset.

Expanding the employment base means new income infused into a local economy. This new income can lead to increased sales for local merchants. It can mean new housing and an increase in the local tax base, apart from the original increase attributed to the plant or buildings housing the new industry. For many small communities and rural areas in the United States, economic development may mean the reversal of a period of economic stagnation.

Economic growth further stimulates a local economy indirectly. Many industrial firms attract other industries which serve or are otherwise dependent on the primary industry. Examples include expanding agricultural output leading to new food processing plants, cold storage and transportation facilities following meat packing plants, varous warehouse and wholesale distributors serving major manufacturing facilities. Each new supportive firm contributes new jobs, and new income, to the expansion of the local base. As sales pick up in the local service sector, it may mean new employees or physical expansion into a larger store or service building.

Economic growth, as can be seen from the above discussion, has many positive impacts for the community at large, apart from just those who benefit directly in the form of income and profits from the original expansion. But economic growth may also have negative consequences.

New jobs often imply new people in a town or area unprepared for population growth. New costs may be imposed on local governments as, for example, greater police and fire protection are needed. New schools and teachers may be required as new residents enlarge the school population. All of the above costs are primarily monetary in nature, but there may be social costs associated with growth which are hard to quantify. Some communities take pride in the fact that they are small and closely knit. Economic growth may mean an influx of people with different social backgrounds who do not exactly "fit in" with the original residents. If the influx is sufficiently large, small towns may completely lose their original identity.

There are other social costs associated with growth which are not as philosophical as "identity", but are just as hard to quantify. An expanding population means more traffic and its associated pollution, generally higher crime rates, and sometimes pollution of air and water by the firm or firms creating the new jobs. Economic growth brings with it many problems for communities, and not just those monetary costs associated with serving a growing population. Not all the effects of economic expansion and the subsequent rise in employment are positive.

It is nearly impossible to objectively evaluate the multiple impacts of economic development unless total costs and benefits can be identified and measured. Since costs and benefits are things which <u>people</u> must pay for and receive, it is important to know the expected quantity and composition of job-induced population growth (who and how many people there

will be). There is a second reason why identifying the effects of new employment has on population change is necessary. Economic development activities in many areas are a reality apart from whether or not they are desired or even desirable. In areas experiencing economic growth there is a need to react to changes taking place. Identifying expected changes in population size and composition may aid in a smoother economic and social transition.

The ability to project population can be important to decision-makers at various levels of government in facilitating their response to changing social and economic conditions. Without some idea of what the future holds, decisions can only be made in response to a change taking place or to changes that have already taken place. Consequences can be hasty decisions, overreaction, or failure to react adequately.

Research Setting

A relatively rural area in northeastern Oregon provided an opportunity to examine the effects of increasing employment opportunities on population growth (Figure 1). The counties of Gilliam, Morrow, and Umatilla, located in the upper Columbia River Basin in Oregon, were either experiencing rapid development of the local economy, or were expecting such growth in the near future.

In April, 1975 a proposal was submitted to the Office of the Governor, State of Oregon, for funding consideration drawing on Title X funds of the Public Works and Economic Development Act of 1965, administered through the Pacific Northwest Regional Commission. The primary purpose of the research to be supported by those funds was to investigate the alternatives for and consequences of water development projects in the Oregon Northern Columbia River Basin area. On August 1, 1975, the project was funded under the

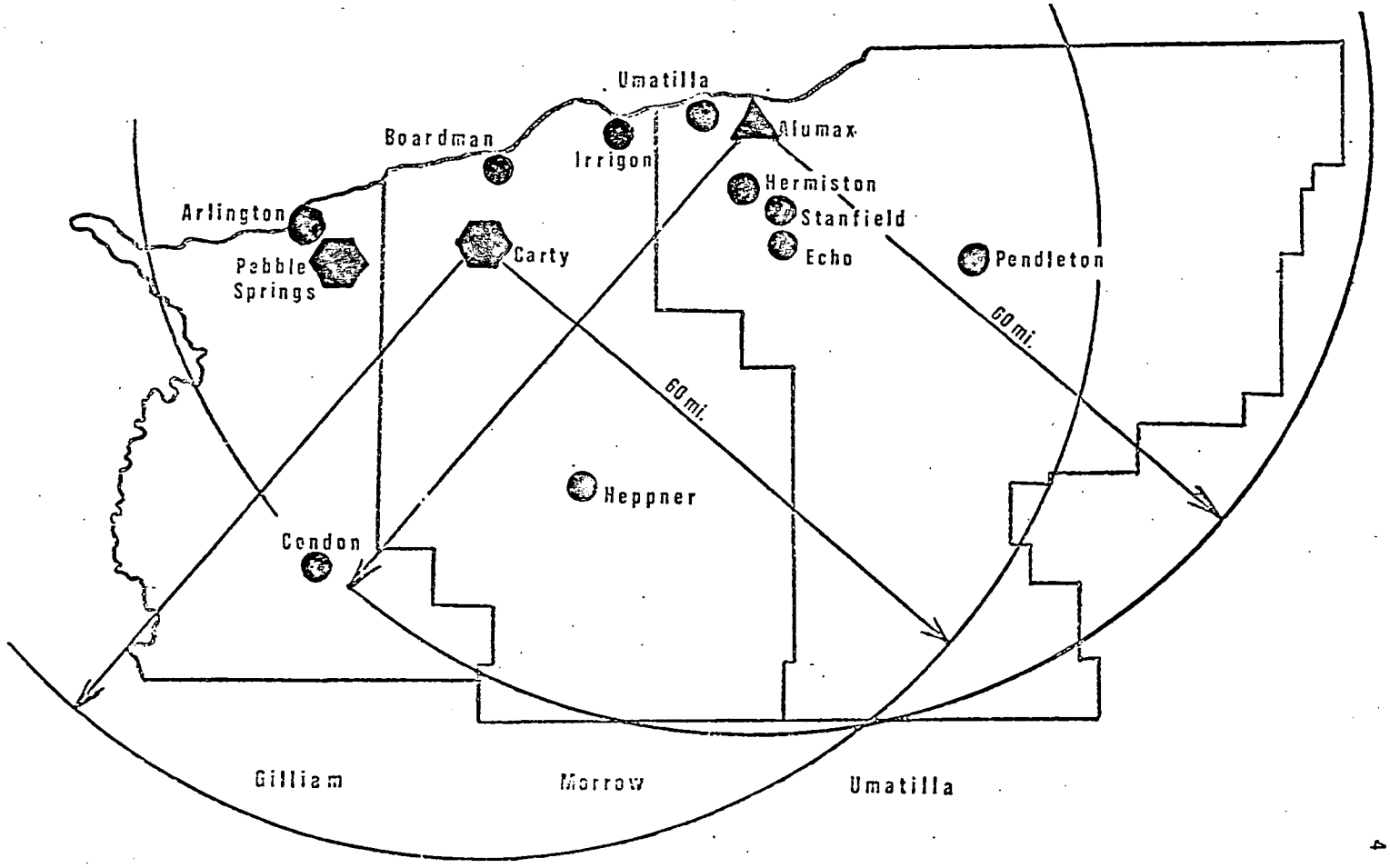

Figure 1. Major Industrial Sites: Three-County Area

title "Oregon Northern Columbia River Basin: Irrigation Systems Development Project". The Department of Agricultural and Resource Economics, Oregon State University, assumed as one of several obligations responsibility to provide the primary contractor, Stanfield and Westland Irrigation Districts, ". . . with a basis for assessing the economic consequences and impacts of agricultural based growth and development in the area" [28, p. 9].

Interest in assessing the economic implications of various forms of development in the tri-county area (Umatilla, Morrow, and Gilliam Counties) was spurred by the rapidity of economic changes that have characterized the region since about 1970.[1/] The agricultural sectors of Morrow and Umatilla Counties, especially, have undergone radical transformation. Irrigation projects have brought upwards of 80,000 acres into production since 1970 [3, p. 201; b].

Irrigation development has had significant indirect effects on local economies and communities. Several new firms have been established since 1970, including irrigation pipe manufacturing, bulk fertilizer plants, meat packing plants, and potato processing firms. Many additional firms are in the planning stages for future development. Most or all of this development can be attributed to the irrigation-based increase in agricultural pro-

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1/ Actual industrial development in the tri-county area has, since 1974, occurred so rapidly that at any one time it is impossible to accurately list or evaluate new developments. An excellent source for such information is the "Greater Hermiston Chamber of Commerce Newsletter", which contains a listing of all known development proposals for the area [15]. A few of the larger known development as of July, 1976 include:

(1) Gourmet foods - began operation in the third quarter of 1976 with 162 full-time employees with 100 additional employees added in the fourth quarter.

(2) J.R. Simplot Co., - 15 million dollar facility to process potatoes, a three-stage construction phase with the first to employ 200 people.

(3) Alumax Pacific Corporation - primary ore reduction facility with eventual permanent, full-time work force of 800.

(4) Portland General Electric - coal-fired electrical generating facility near Boardman in Morrow County with a full-time work force of 100 employees.

duction in the tri-county area. The magnitude of increases in the value of area agricultural production can be seen in the table below for total value of agricultural sales:

Table 1. Value of Gross Agricultural Sales: Three-County Region, 1965, 1970, 1975

County	Total Gross Sales (Agriculture) In Thousands		
	1965	1970[a/]	1975[b/]
Gilliam	6,372	7,991	17,788
Morrow	8,996	11,438	69,216
Umatilla	29,002	46,853	108,953
TOTAL REGION	44,370	66,282	195,957

a/ Revised estimate.

b/ Preliminary.

Source: Compiled from "Value of Agricultural Sales-Annual Reports", Extension Economic Information Office, Oregon State University [19].

Change in the economic structure of the Northern Columbia River Basin counties has not been limited to agricultural development. Alumax Corporation and Portland General Electric (PGE) are in the final planning stages for new plants to be located in Morrow, Umatilla, and Gilliam Counties. In the fall of 1976, Portland General Electric began construction near Boardman in Morrow County of the first of several proposed electrical power generating facilities. Future plans include the construction of a nuclear power plant near Arlington in Gilliam County. PGE's long-range goals are to have at least three generating plants on line in the area by the year 2000 [27].

Selected Effects of Economic Development

The first notable effect rapid economic development had during the late 1960's and 1970's was on the unemployment rates in the tri-county

area. In Gilliam, Morrow, and Umatilla during the 1960's, unemployment exceeded both national and State of Oregon levels. Average unemployment in the three counties during the 1960's was more than a complete percentage point higher than the United States and Oregon averages. This means that unemployment in the three counties was more than 18 percent higher than national or state levels [2, p. 19; 11, p. 225; 29].

Since 1970, the situation outlined above has sharply reversed. In 1975, the annual unemployment rates for Morrow, Gilliam, and Umatilla were 5.6, 8.6, and 7.7 percent respectively [29, 1975]. These rates are far below the State of Oregon average (10.6 percent), and only Umatilla County had an unemployment rate slightly higher than the 8.5 percent national average [29, 1975].

Population growth has also been associated with the economic development in the tri-county area. Umatilla County experienced a seven percent increase in population between 1970 and 1974, from 44,923 to 48,200 [9, 1970-1975]. Morrow has experienced no less than a 16 percent increase in the same period, from 4,465 to 5,190 [9, 1970-1975]. Gilliam has slightly lost population but that trend could rapidly be reversed with the future development of the Pebble Springs nuclear facility.

Future population growth can be expected for two reasons. The relatively low unemployment rates in the area suggest that any excess labor which may have existed is essentially exhausted. Anticipated employment growth will thus attract more residents to Oregon's Northern Columbia River basin. Secondly, future expansion in such areas as electrical generation and primary metals reduction may require a particular type of labor force which is not now residing in the area in any great numbers.

Objectives of the Research

The primary purpose of this research is to develop a population forecasting model based on changes in total employment for small, relatively rural areas experiencing rapid economic growth. Once the model is developed and tested, it is applied to the counties of Morrow, Gilliam, and Umatilla. The recent history of rapid growth, and the expected continuation of that growth makes the tri-county area an ideal research setting.

Such a model should be of benefit to many communities who are either anticipating, or are experiencing, economic growth and wish to know something about what the future holds. Reasonably accurate population projections which reflect changes in total employment should be of considerable value to county commissions, or their equivalents, by providing a decision-base for questions of planning and zoning, for example. Boards of education will possibly be better able to assess the need for facilities, teachers, and equipment. Mayors and city managers might be better prepared for actions related to the provision of police and fire protection as well as other city services. In the tri-county area, assuming relatively accurate population predictions are forthcoming, local governments should benefit in their attempts to plan effectively for future change in the economic and social structure of their constituency.

Finally, it is also hoped that by providing population projections for alternate growth scenarios, residents of the area can gain some control over their own futures. Decisions being made now will affect the area for several years. Knowing something about the future consequences of present choices should help residents to better decide the course of their own futures.

Synposis of the Thesis

Chapter II contains a review of some traditional, general methods with which population projections have been made in the past. Emphasis is given to models which attempt to relate economic growth to population changes. Chapter III is a fairly broad chapter in scope which deals with three related issues. The first is an examination of extant population projections for the study area. The second issue is outlining and detailing possible growth scenarios in the tri-county region. The third segment is an outline and discussion of the model developed in this research to predict population on the basis of net changes in employment opportunities. The fourth chapter of this research includes tests of the proposed model as well as a discussion of the empirical results from the application of the model in the study area. Chapter IV also includes proposals for future research, the summary, and conclusion of the thesis.

CHAPTER II

GENERAL METHODS OF POPULATION PROJECTIONS

The traditional techniques used in population projects almost exclusively fall into the discipline of demographics. Of primary interest to demographers are three variables which can affect population size. Specifically, those three variables are fertility, mortality, and migration. Population size at any one time can be expressed as $P_T=f(F, Mo, Mi, P_{T-\alpha})$.[2/]

Estimating or projecting population size is not as easy as the general function makes it appear. Estimates of the variables, F, Mo, and Mi, are made in a number of ways with varying degrees of sophistication, and with different objectives in mind. Thus, the use of the term "general methods", although widely applied by demographers, is somewhat misleading. Approaches taken to the projection of local populations for cities and counties are especially diverse. There are, however, some very broad characteristics which are used to separate projection techniques into two basic types.[3/]

The two primary categories of population projections are descriptive and component methods. Descriptive population projections extrapolate future population size from measured changes in past population size, and are mathematical in nature. Descriptive projections range from simple

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[2/] P_T population size at time T, is a function of various fertility (F), mortality (Mo), and migration (Mi) rates, applied to population size at some period prior to time T, $P_{T-\alpha}$.

[3/] In most textbooks dealing with the prediction of population, a third category of techniques includes the various "ratio methods" of projections. All methods which predict population for a local area by estimating its proportionate share of projected population from a larger population are known as the ratio methods. The ratio methods are not treated in this thesis, due to the fact that almost no evidence of their being presently in use can be found.

eye-sight projections of graphis representing past population size, to sophisticated curve fitting models using regression and other forms of multivariate analysis.

In recent literature the descriptive models seem to have fallen out of favor. The accuracy and flexibility of the approach may not be an issue. Rather, descriptive models have, in prior applications, commonly been used to project total population. Increasingly, users of population projections are as concerned with population composition as they are with total size. The ability to disaggregate total population into its composite parts has increasingly been a concern of demographers. Users of population projections are demanding detailed information on such things as the size of the school age population as a surrogate for quantity of educational facilities demanded, percentages of minority residents, and proportion of older citizens in an attempt to assess the special characteristics of those subsets of the total population.

Easy access to computers and the recent addition of electronic calculators have also facilitated the emergence of component models as the method of choice. The primary advantage of component models is the ability to disaggregate, accumulate, and project total population in its component elements. As the term "disaggregate" implies, necessary data sets and computations are compounded as larger number of sub-populations are handled. Computers and calculators make the handling of considerable data relatively low in cost given the benefits of examining changes in the various components of total population.

The first component methodology was introduced by Whelpton in 1928 [32]. The technique has become known as the cohort-component method. A model which projects population is classified as a true cohort-component model if it meets two specifications. First, the model must treat the

three fundamental demographic variables separately and explicitly: fertility, mortality, and migration. Second, the population of interest must be dissaggreated by sex and age--the "cohort" component.

Fertility and Mortality

Within the general cohort-component methodology there remains considerable flexibility with respect to ways in which fertility, mortality, and migration may be treated. At least in the United States, however, with the availability of large quantities of relatively accurate data, the treatments of fertility and mortality have become rather uniform.[4/] Given an enumerated population total divided into single or multiple year age-sex cohorts, various fertility and mortality rates are applied and yearly population totals are measured or projected.

The fertility and mortality statistics which have been generally utilized are those supplied by the United States National Center for Health Statistics in their annual reports: Vital Statistics of the United States [24; 25]. Fertility is reported in vital statistics by five-year age-cohorts for all women between the ages of 10 and 49, defined as the child-bearing age cohorts. Mortality statistics are also reported for five-year age-sex cohorts, with a single cohort for infants 0-1 years of age. Except in the case of infants, the mortality rate is the proportion of those alive at the beginning of each time period who will die during the ensuing five years.

4/ A detailed discussion of different measures of fertility and mortality, and the use of those variables in demographic projections, is given in The Methods and Materials of Demography, Volume 2 [8].

Migration

A fairly cohesive methodology for the treatment of fertility and mortality has emerged in the literature, but that same unification of ideas has not yet appeared with respect to migration. As with population projections in general, there are at least two broad categories into which most techniques for estimating the effects of migration can be placed. Within those two categories there are several variations which receive most attention. The first general category of techniques used to measure migration includes all "descriptive" models which base projected (future) migration on observed (past) migration. The second general category includes all "explanatory" models that attempt to predict migration by defining and measuring those variables which tend to cause people to migrate.

Descriptive Methods of Projecting Migration

One technique often used to measure migration is the residuals method. Although there are several forms of the residual method, one general formula expresses the idea of all. Migration is equal to the difference between two measures of population change over a given time period, net of the effects of fertility and mortality, or: $M=(P'-P'') - (B-D)$ where M equals migration, P' is an enumerated value of population at some point in time, P" is a cohort-component projection for the population size for the same point in time net of migration, and B and D are births and deaths, respectively, occurring during the interval of the cohort-component projection [8, p. 628]. Therefore, to assess the effects of migration, a comparison is made between the enumerated population for a given year with a cohort-component projected population for that same year. The difference between the totals, or the "residual", is that

proportion of total population which can be accounted for through migration. The value thus computed for past migration is then used in projecting future migration.

A second set of descriptive methods used to measure the effects of migration is the cohort-survival method. The cohort-survival method was used sparsely during the first half of the 20th century, but became formalized and gained wide acceptance only with Hamilton and Perry's works in the early 1960's [14, p. 160-210]. Using Hamilton and Perry's notation, the cohort-survival method can be mathematically stated using the example: $P_x^7 = (P_x^6 - 10)(P_x^6)/(P_x^5 - 10)$ where P_x^7 is the predicted population in cohort x for 1970, and is equal to the population in cohort x-10 in 1960 ($P_x^6 - 10$), times the population in cohort x in 1960 (P_x^6), all divided by the population in cohort x-10 in 1950 ($P_x^5 - 10$). The predictions for those between 0-9 years of age for 1970 are made by applying the appropriate fertility rates for the 1950-1960 period. Thus, the predictions for 1970 are made by analyzing the <u>combined</u> effects of mortality and migration rather than by determining each separately.

The use of past migration rates to predict future population size is based on the assumption that the techniques reveal underlying or basic migration patterns which are unaffected by local events. On the national or, perhaps, the state level it might be adequate to assume migration rates are constant over time, but on the county or city level such an assumption is unreasonable. In an attempt to deal with the relatively volatile nature of county and city populations, new techniques were needed to estimate the effects of migration on the size of local populations.

Economic Methods for Predicting Migration

Attempts to accurately predict future migration streams are difficult, given the complex reasons which cause people to migrate. There has been considerable speculation and research, however, in which attempts to isolate, quantify, and evaluate the key explanatory variables have been made. One of the earlier hypotheses was the most people migrate for economic reasons. The inherent reasonableness and successful tests, of that hypothesis has led it into the forefront of present migration research. It is not surprising then to find research on the causes of migration in the economic journals rather than those specifically oriented toward demography, although the divorce is by no means complete.

An early attempt to incorporate economics into population projections was done by the Stanford Research Institute in their Basic Economic Projections: United States Population, 1965-1980 [1, p. 37-44]. The work done at the Stanford Research Institute was predicated on the assumption that those areas with a relatively higher per capita income were likely to attract migrants, while those with a relatively lower per capita income would lose population through out-migration. Migration, for the 1965-1980 population projections by state, was predicted with the use of an estimated regression equation based on cross-sectional state 1950-1960 data. The estimated equation was $Y = 38.04255 + .402863X$ in which Y stands for the net migration rate (net migration/1950 population) and X represents the change in per capita income during the same period (expressed as a percent of the same United States figure). In order to make the population projections, net changes in per capita income for the 1965-1980 period were independently projected. Thus, the predicted net migration for any state is equal to: [(Migration rate 1950-1960) + (Unit change in per capita income) x (.4)] x (1960 population).

Other economic variables besides per capita income have also been used to explain observed migration patterns. One of the most useful, especially to those concerned with projecting local populations at the county or city level, is employment or the lack thereof in the prediction of future migration streams. A good example of a model incorporating employment data is that which was used by the Oregon State Board of Census in 1964 [13]. Population projections for 1960-1985 were made in a relatively straightforward, three-step procedure. First, the 1960 population by age-sex cohorts was projected through future years by using appropriate fertility and mortality data. No in- or out-migration was permitted in the sub-model. The total available supply of labor (labor force) was estimated by multiplying the respectively yearly population projection times projected age-specific labor force participation rates.

A second labor force forecast was made by independently projecting employment. This second forecast was adjusted to account for expected unemployment levels in future years. The difference between the two predicted labor force totals represents the expected in- or out-migration of labor.

Third, and finally, expected net labor force migration was converted to expected net population change. A population-labor force multiplier was applied to the predicted net change in labor force to predict net population change resulting from migration. The population-labor force multiplier is calculated by simply dividing the total population by the total number of labor force members.

The value of the various "economic" models lies in the fact that they take into account events at the local level which can affect migration rates. The problem with models that predict migration on the basis

of past migration rates lies with their inability to deal with changing local situations. In many counties and cities the need for population projections is related to a prospective or actually occurring event which may lead to growth in population. Specific examples would include rapid industrialization, the development of a local resource, or a significant expansion of an existing industry. The problem lies in the fact that economic change regardless of type or source, will likely cause present or future levels of migration to vary from past migration rates.

CHAPTER III

EMPLOYMENT GROWTH AND ITS EFFECTS ON POPULATION SIZE

Future economic growth and development in Oregon's three northern Columbia River Basin counties is fairly certain, but the exact rate and magnitude of growth are less certain. In the following discussion two recent population projections for Morrow, Umatilla, and Gilliam are analyzed. Following that, various probable scenarios of economic growth are presented. The final major segment of this chapter includes the presentation of the model developed for this research to project population.

Recent Population Projections

At least two of the major industries which are moving into the northern Columbia River Basin of Oregon have published studies which include population projections: Alumax and Portland General Electric [10, 27]. The Alumax plant is a primary ore reduction facility to be built at the Port of Umatilla. Present plans indicate a four-year construction schedule with peak employment during that period of 2,200 employees [10, p. 36]. Operations staff for completed plant will approach 800.

Portland General Electric (PGE) has three proposed plants to be built before 1985, including the nuclear facility at Pebble Springs south of Arlington, a coal-fired plant under construction south of Boardman, and a second nuclear facility proposed for the area. Total average annual construction employment for the three PGE projects is estimated to be 2,213 [27, p. 11-3]. Operations of the three plants will employ approximately 353.

The population projections made by the consultants to the two firms address the issue of the effects new employment opportunities may have on

future population size. The method used in the Alumax study to predict population begins by dividing employment into primary and secondary effects. Primary employment effects are those associated with construction and the subsequent operation of the firm. Secondary effects are the result of new employment in other industries generated in the area as the result of the new construction and operations employees in the primary industries.

Population attributable to the primary population is calculated on a persons per job basis, and is computed directly from known employment figures and past experience in similar developments. The number of persons per job includes the employee and all of his primary dependents. Secondary population is estimated by developing an employment multiplier to predict the number of secondary jobs which will result from the primary population. Secondary population is then the number of workers and their dependents who will be associated with secondary jobs, and is calaculated on the basis of past experience and a known job to population ratio in various selected secondary occupations in the area. The total population projection is the sum of the primary population (construction and operation related) and secondary population.

Portland General Electric population projections are based on a nearly identical technique. Slight differences in employment multipliers and family size are used, but these are in substantial agreement with those developed in the Alumax study. The only significant differences are in the amount of disaggregation used by Portland General Electric. Primary and secondary population effects are broken into those associated with bachelors and married persons. In lieu of population per job estimates, as in the Alumax study, the PGE projections are based on estimates of the number of bachelors in the work force and of the family size for those

who are married. This probably accounts for the difference in household or family size (persons per married male) multiplier used by the two studies. Alumax uses 3.00 and PGE uses 3.17. The larger multiplier for PGE would be appropriate since bachelors are not subject to the multiplier as they are in the Alumax study.

In August of 1976 a special Task Force Report entitled "Projected Growth in Oregon's Northern Columbia River Basin Counties" was prepared and published for the Office of the Governor of the State of Oregon [20]. In many ways, the Task Force Report is a precursor of this present expanded study. The population projection model used here is basically a revised and improved version of the one used in the Task Force Report. As with the population projections from Portland General Electric and Alumax, the Task Force Report is limited to the larger developments; and many changes have occurred since the publication of that report.

The question immediately arises as to why another population projection for the area is required. Three answers may be given. First, population projections are highly subject to change, due to delays in construction schedules, the addition of new development projects, and other over-all changes in the local economies. The more recent projections are those in the Portland General Electric study published in May of 1975 and updated in June of 1976 [27]. Since that time the Alumax construction plans have been delayed, several new developments have been added to the growing list in the area, and most recent data are becoming available on over-all economic development in the three counties. A new projection seems in order due to the changes just mentioned, all of which will alter both the size and timing of population growth in the Oregon Northern Columbia River Basin.

Second, the present study projects total population for all known developments as of June 1976. The Alumax and Portland General Electric studies do not attempt to predict total population. Rather, projections are limited to net increases in expected population due to several of the larger industrial developments. Neither deals with a second issue, i.e., population changes associated with demographic variables such as the exit of 18 year olds from the area.

In this study an attempt is made to account for all significant events that can have an effect on the population of the tri-county area. The population projections reported here include estimates of net increases due to known and expected developments of various sizes and potential future impact on population size.

Future Growth Scenarios

The population projections made in this study are for the years 1975 to 1990. The purpose of the projections is to describe the effects on population size of several proposed developments for the area. No attempt is made here to project what the actual population of the three counties under consideration will be during any future year. However, the projections should be fairly close to the actual population for the first few years. This is due to the fact that all known developments proposed for the area in the next few years are analyzed. Any future development not accounted for would probably take a few years to come on line, and thus their impact on population size would not be immediate.

Four rather large future development proposals are the basis of these projections. They include the Stanfield/Westland Irrigation Project, Portland General Electric's coal-fired electrical generating plant near

Boardman in Morrow County, Portland General Electric's nuclear electrical generating plant near Arlington in Gilliam County, and Alumax Pacific Corporation's primary ore-aluminum reduction facility near Umatilla and Hermiston in Umatilla County. Only the coal-fired generating plant near Boardman is presently under construction. To account for a degree of uncertainty with respect to the timing of the other three developments, three different scenarios are considered. The first scenario is called a conservative projection and includes only developments which are certain as of February 1976. Of the four major industrial proposals, the baseline projection includes the Portland General Electric coal-fired plant in Morrow County, and a small portion of the Stanfield/Westland Irrigation Project. The baseline projection also includes several smaller developments which are listed in Table 2.

The second scenario includes significant development in the Stanfield/Westland Irrigation Project only. It is assumed that 60 percent of all the acres signed up for the project will be delivered irrigation water.[5/] The third set of assumptions are that 90 percent of Stanfield/Westland project will be implemented, the Alumax plant will be built, and the Pebble Springs nuclear facility will become a reality. In Table 2 below, each scenario is outlined, and the assumptions associated with each development are listed.

5/ Farmers representing nearly 100,000 acres paid two dollars per acre to support engineering and related expenses to determine a least-cost alternative for irrigation of their land from the Columbia River [31, p. i-2].

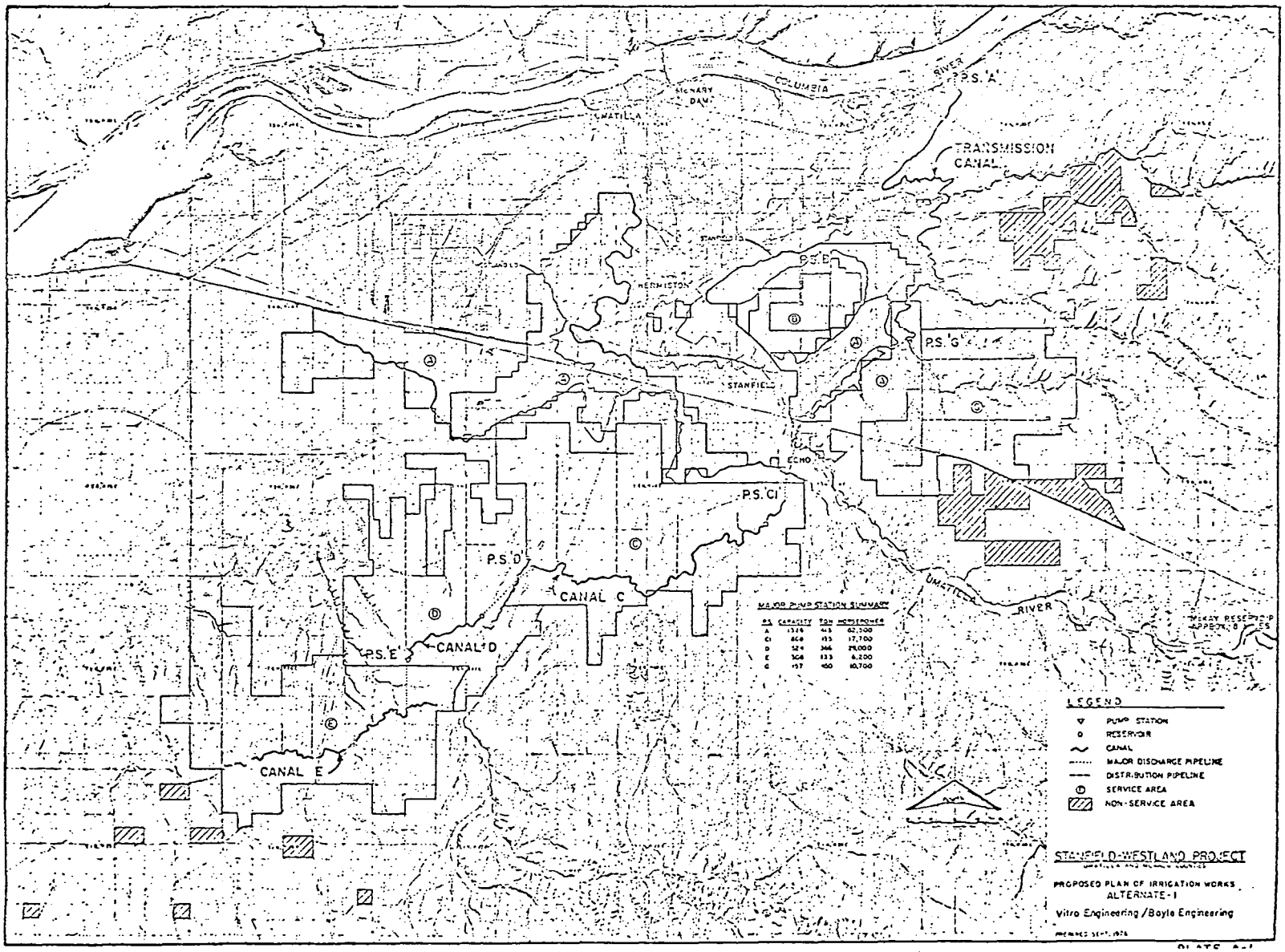

Figure 2. Stanfield/Westland Irrigation District Service Areas

Table 2. Three Scenarios of Economic Growth in Oregon's Northern Columbia River Basin

Scenario	Summary of Development Activities
Conservative: Stanfield/Westland Service Area C[a/] Union-Pacific Hinkle Expansion[b/] Simplot Plant[c/] Carty Coal-Fired Plant[d/]	Stanfield/Westland Irrigation Project not undertaken completely, but service areas A, B, and approximately 2/3 of C receive water. This means approximately 20,000 new acres under cultivation. No inducement of further food processing facilities.
Moderate: Stanfield/Westland All Service Areas except Areas E, F, and G	Stanfield/Westland Irrigation Project undertaken formally with approximately 60,000 new acres under cultivation.
Extensive: Stanfield/Westland All Service Areas Alumax Pebble Springs Nuclear Facility	All service areas of Stanfield/Westland Irrigation Project receive water. Approximately 90,000 new acres added. Three new food processing plants accompany the increased agricultural output.

a/ The map on the preceding page shows the Stanfield/Westland Irrigation project service areas designated by the letters a, b, c, d, e, f, and g. Service area c contains approximately 20,000 acres. All service areas except e, f, and g will include approximately 60,000 acres. All service areas will be approximately 90,000 acres.

b/ The Union-Pacific Hinkle expansion is the development of a major west coast switching yard for the railroad.

c/ The Simplot plant will be a new potato processing facility just south of Hermiston

d/ Carty Coal-Fired Plant: PGE plant in Morrow County under construction.

A Proposed Model to Predict Population

In Chapter II it was pointed out that the component methods of population projection are probably the superior methods for projecting local populations. It was also pointed out that the disaggregation inherent in the component methodologies can lead to rather large numbers of operations and calculations. In an attempt to reduce potential confusion, the model proposed in this chapter is presented in three distinct sub-sections. The first includes a mathematical interpretation of the model in its entirety, and concludes with the treatment of fertility and mortality. The second section representing the bulk of the present chapter, is the presentation of the sub-model to predict employment-related net migration. Finally, population change associated with essentially non-economic variables is discussed.

The Model Expressed in Equation Form and the Fertility and Mortality Sub-Models

The model used to project population in this study is a composite of structural relationships drawn from the disciplines of both demography and economics. Earlier it was said that population at any one point in time can be expressed by the general formula: $P_T = f(F, Mo, Mi, P_{T-\alpha})$. A general formula to express population is not useful for projection purposes, however, until specific methods are identified to account for the effects of ferility, mortality, and migration on population change. In order to express the specific treatments of fertility, mortality, and migration used here, the general population formula is expanded to:

$$1.\quad POP_{ijk} = POP_{ijk}^{t-1} + [(POP_{ijk}^{t-1}) \cdot (F)] + (INMIG_{ijk}^{t-1} - OUTMIG_{ijk}^{t-1}) - [(POP_{ijk}^{t-1}) \cdot (M)]$$

where

t = the beginning of any given year

i = 1-3

1 = Gilliam County

2 = Morrow County

3 = Umatilla County

j = 1-86 = single year age cohorts from 0 to 84 and one group 85 and above

k = 1, 2

1 = male

2 = female

POP = Population

F = Fertility rate

INMIG = In-migration

OUTMIG = Out-migration

M = Mortality rate

so

POP^{t}_{ijk} = Population in county i of age j and sex k at the end of any given year

$(POP^{t-1}_{ijk})F$ = Total live births in county i during the year preceding time t

$(INMIG^{t-1}_{ijk} - OUTMIG^{t-1}_{ijk})$ = Net migration in county i for all age groups during the year preceding time t

$(POP^{t}_{ijk})M$ = Total deaths expected in year preceding time t for all ages who were residing in county i at time t-1.

In the following sections, procedures used to determine values for Equation 1. will be discussed.

Fertility and Mortality. The fertility and mortality rates used for this study are national rates for 1970 compiled by the U. S. National Center for Health Statistics [25, Vol. I, p. 1-10; Vol. II, Part A, p. 5-3]. Statistics for 1970 are used due to the fact that 1970 is chosen as a base year for the over-all study.[6/] Mortality rates for the past 35 years have varied by no more than 1.5 deaths per thousand, so the 1970 rate can be expected to remain fairly representative throughout the period of this projection.

Fertility rates have traditionally been more variable than those for mortality. Thus, the use of 1970 fertility rates throughout the 1975 to 1990 period is not as acceptable as using the 1970 mortality rates for the same period. The number of births per 1,000 women in their child-bearing years dropped by 30 between 1960 and 1970.[7/] This means that if the 1960 national fertility rate had been applied to the approximately 4,000 women between the ages of 15 and 144 living in the three-county area in 1970, one would have predicted an excess of approximately 120 more births [7, p. 39-95, 99, 100]. If the 1960 birth rate had been used for each and every year between 1960 and 1970 in forecasting population change during the ten-year period, the total predicted births would have far exceeded

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[6/] Base years are used in demographics as a simplifying device. If complete and accurate demographic statistics were collected and compiled each and every year on the number of births; population by age, sex, and race; place of residence, etc., there would be little need for analyzing one particular year as a typical or base year. Such comprehensive statistics make identification of trends more feasible. One way or another, most population projections use some trend analysis.

[7/] In 1960 there were 118 births per 1,000 women between the ages of 15-44. In 1970, the birth rate had dropped to 87.9 births per 1,000 [24, Vol. I, p. 1-22, 25; Vol. I, p. 1-10].

actual births. The United States Bureau of the Census makes population projections using four different levels of fertility. The 1970 fertility rate used in this study is approximately the mean of the four estimates used by the Census Bureau in their 1990 projections [4]. Therefore, the estimates of the number of births made in this study are mid-range projections. Thus, projections of the number of births to be expected in the region are valid only so long as the actual birth rates in the area approximate the 1970 national average.

One further possibility for error exists in projecting the number of births in the three-county area. United States fertility rates in recent years have been about two percent higher than those for Oregon [25, Vol. I]. Since this would mean an error of only approximately one birth per thousand women, this should cause no significant problems in regards to the number of births projected here.

The actual number of predicted births in each county for each year is computed by distributing the total female population of each county in the child-bearing years (15-44) into five year age cohorts (15-19, 20-24, . . . 40-44), and then multiplying each cohort by the appropriate fertility rate as follows:

2. $$BIRTHS = (POP_{ijk}^{t-1}) \cdot F_l$$

where

i = County

j = Ages 15-44 by five year age cohorts

k = 2 = Female

l = 1-6 = Fertility rates for six age cohorts from Table 3 below.

Table 3. National Fertility Rates for Total Female Population Ages 15-44 in 1970

Ages	Fertility Rates*
15 - 19	68.3
20 - 24	167.8
25 - 29	145.1
30 - 34	73.3
35 - 39	31.7
40 - 44	8.1

* Births per 1,000 women of each age group.

Source: [25].

The actual number of deaths, or the effects of mortality, is estimated by the following formula:[8/]

3. $$DEATHS = (POP_{ijk}^{t-1}) \cdot M_m$$

where

t-1 = Population exactly one year prioer to time t

i = County

j = Ages 1-85 by single year age cohorts

m = Mortality rate for age and sex by single year cohort.

Mortality rates for single-year age and sex cohorts are not reported in the Vital Statistics of the United States. However, single-year age and sex mortality rates can be computed. From a table which reports the number of survivors at single-years of age for both sexes, out of 100,000

8/ The mortality in the male-female 85 and above age-cohort is set at 4.5 times the 84-85 mortality rate for males, and 8.0 times the 84-85 mortality rate for females.

born alive, single-year age and sex mortality rates are computed as follows:

4. $$M_m = \frac{t^0_{jk} - t^0_{jk}}{t^0_{jk}}$$

where

M_m = Mortality rate for age and sex by single year cohort

t^0_{jk} = Number of people age j of sex k alive at period t

t^1_{jk} = Number of people age j of sex k alive exactly one year later.

The computed rates are reported in Table 4.

The Migration Sub-Model

Estimating total net migration is carried out in this model on two levels. First, estimates are made of the net migration which can be expected due to changes in employment totals. Second, estimates are made of net migration which can be expected for reasons other than employment per se.

Estimating net migration due to changes in employment is a three-step process. The method employed here is similar to the technique employed by the Oregon State Board of Census, described in the previous chapter. Two estimates of labor force size are made. The difference between the two is the estimate of expected net labor migration. The estimated in- or out-migration of labor is then inflated for dependents of in-migrants with families.

Estimating Labor Force Associated With Employment. The first estimate of labor force size is the sum of projected total employment and unemploy-

Table 4. National Mortality Rates By Single Year Age and Sex Cohorts for 1970.

Age	Sex		Age	Sex		Age	Sex		Age	Sex		Age	Sex	
	Male	Female		Male	Female		Male	Female		Male	Female		Male	Female
0- 1	.02550	.01764	17-18	.00161	.00065	34-35	.00263	.00138	51-52	.01062	.00569	68-69	.04349	.02202
1- 2	.00136	.00119	18-19	.00180	.00068	35-36	.00269	.00153	52-53	.01161	.00614	69-70	.04658	.02410
2- 3	.00094	.00075	19-20	.00196	.00070	36-37	.00288	.00168	53-54	.01276	.00664	70-71	.04984	.02634
3- 4	.00079	.00059	20-21	.00211	.00071	37-38	.00310	.00183	54-55	.01403	.00717	71-72	.05334	.02878
4- 5	.00064	.00048	21-22	.00226	.00074	38-39	.00336	.00199	55-56	.01541	.00775	72-73	.05722	.03163
5- 6	.00085	.00044	22-23	.00234	.00075	39-40	.00367	.00214	56-57	.01684	.00838	73-74	.06166	.03501
6- 7	.00062	.00039	23-24	.00232	.00077	40-41	.00402	.00231	57-58	.01839	.00903	74-75	.06663	.03886
7- 8	.00043	.00034	24-25	.00224	.00079	41-42	.00440	.00250	58-59	.01198	.00969	75-76	.07206	.04311
8- 9	.00032	.00029	25-26	.00213	.00081	42-43	.00480	.00272	59-60	.02168	.01038	76-77	.07790	.04773
9-10	.00027	.00026	26-27	.00202	.00084	43-44	.00526	.00297	60-61	.02346	.01113	77-78	.08406	.05262
10-11	.00027	.00024	27-28	.00198	.00087	44-45	.00570	.00325	61-62	.02535	.01198	78-79	.09049	.05784
11-12	.00033	.00025	28-29	.00198	.00091	45-46	.00628	.00356	62-63	.02742	.01296	79-80	.09721	.06342
12-13	.00046	.00027	29-30	.00203	.00095	46-47	.00686	.00388	63-64	.02968	.01510	80-81	.10419	.06954
13-14	.00064	.00033	30-31	.00210	.00100	47-48	.00749	.00421	64-65	.03214	.01539	81-82	.11139	.07631
14-15	.00087	.00040	31-32	.00218	.00108	48-49	.00819	.00455	65-66	.03480	.01684	82-83	.11881	.08397
15-16	.00112	.00049	32-33	.00228	.00116	49-50	.00894	.00491	66-67	.03760	.01839	83-84	.12620	.09284
16-17	.00138	.00057	33-34	.00240	.00127	50-51	.00974	.00529	67-68	.04049	.02012	84-85	.13331	.10328

Source: Computed from values in Vital Statistics of the United States: 1970 [25, Vol. II, p. 5-6].

ment by year. In order to project employment and unemployment, the economy of the three-county region is disaggregated into twelve industries, and total employment in each is projected for each year between 1970 and 1990.

It is apparent that different industries experiencing net increases in employment would not have the same effect on population due to differences in the characteristics of their work forces. For this reason the twelve industries in the area are aggregated into five groups which receive separate treatment. Two groups are represented by single industries. The single industry groups are agriculture (which includes only farming), and non-local construction. Agribusiness and food processing are assigned to a third category. The two final groups are aggregates of the remaining ten industries and are identified as "basic" and "secondary". The five aggregate industry groups are listed in Table 5, and the component industries of each group are identified.

Table 5. The Five Industrial Sectors of the Three-County Region and the Associated Industries With Each Sector

Industry	Industries Represented If Applicable
Farming	Crop, livestock, and mixed enterprises; includes truck crop, tree crop, and commercial horticulture enterprises
Agribusiness and Food Processing	Agricultural firms who deal directly with farms, but excluding those primarily involved in manufacturing of farm equipment
Secondary	Agricultural Services, Trade, Transportation, Communications and Utilities*, Finance, Insurance, Real Estate, and Government
Non-Local Construction	Employees of contract construction firms not headquartered in any of the three counties, but residing in the area while engaged in local construction activities
Basic	Lumber and Wood, Local Construction, Primary Metals Reduction, Electrical Generation, and Other Manufacturing

* Except Electrical Power Generation.

The farm sector is treated individually due to several employment practices unique to that industry. There is to a greater degree than in most industries the use of family members in operations of farms. Further, seasonality in farm operations leads to the employment of relatively large numbers of people during several months and not others. Transient farm laborers move into the area during the peak employment periods and then out again as employment tapers off. Since these transients are not full-time residents, their effect on the population of the area is not like permanent full-time employees in agriculture or other industries. Also, there are many jobs in agriculture which, although requiring special skills, such as machinery operation and truck driving, are held by dependents of area residents.

The second industry to be treated separately is contract construction. This sector is chosen for separate treatment for three reasons. The industry is, at present, much larger than it was in the past, and, further, is closely related to growth in other industries. Employment in construction will mushroom in the three-county area if even one or two of the larger developments takes place. Average annual construction employment for Alumax is estimated to be 768, the Carty coal-fired plant in the Boardman area is expected to reach 436, the Pebble Springs nuclear plant near Arlington has a projected construction employment of 813 [20, p. 3]. An additional construction work force is needed to build residences for the construction force itself, future employees of the aforementioned plants, plus additional housing for employees of the expanding secondary industries.

The second reason construction is treated by itself is the fact that construction employees seldom move with their entire families into an area

in which they are working. Although some estimates of the potential for economic growth in the area include a relatively large construction work force in residence for a number of years, and that work force may be treated in some respects as permanent new residents, in other ways it cannot. Even though a large work force exists at any one time, there will be significant changes in the personnel of the construction population from year to year. Given the transient nature of the construction population, there could be significant differences in family size and other factors which would have an effect on the demand for schools in the area. The type of housing demanded by the construction work force could also be important. For these reasons, it seems appropriate to be able to treat construction individually.

The third and final reason construction is treated separately is due to the existence of two different elements of the total construction work force. There does and will continue to exist in the three-county area a certain part of the construction work force which is part of the permanent resident population. This portion of the total exhibits certain characteristics in family size, demand for housing, and impact on community services such as schools, which is not different from any other full-time resident of the three counties. Thus, the resident portion of the construction work force is contained in one of the final two aggregate categories.

The first aggregate group includes the agribusiness firms who both sell inputs to the farm sector and purchase the farming output. These industries include the retail and wholesale farm machinery and supply firms, and the various food processing firms in Umatilla, Morrow, and Gilliam Counties. These industries as a whole will be most affected by the future of the Stanfield/Westland Irrigation Project.

The final two categories used in the employment to population projection include the eight remaining industries of the original twelve and the permanent portion of the construction employment. The first of the two remaining categories is called "basic". It includes all employment in lumber and wood, primary metals, electrical generation, other manufacturing, and the permanent portion of contract construction. These industries all have similar characteristics which lead to them being treated as a group instead of individually. The term "basic" is widely used in economics to denote a certain section of a local or regional economy. The basic sector is typified by industries that produce a product which is not sold locally. In most cases this means that money is brought into the area by these firms. It is spent locally and thus, supports other portions of the local economy.

Both the agricultural and food processing industries are basic industries. For most types of analyses, they would be treated in the larger group of basic industries. However, since this particular project is concerned with the population effects of employment change, it is deemed appropriate to separate agriculture and food processing due to their distinctly different employment patterns. The industries which are treated as a group in the basic category exhibit similar employment characteristics. First, all have a relatively stable permanent work force. Second, it is possible to assume that these industries as a group have similar ratios of employees in categories defined by marital status and sex.

The rest of the industries not previously accounted for are treated as a group labeled "secondary industries". The secondary industries include: wholesale and retail trade, transportation-communication-utilities (except electrical power generation), finance-insurance-real estate, and

government. Secondary industries sell or provide a product or service locally. The term "secondary", like "basic", is commonly used in the literature, and generally connotes industries which purchase their inputs from outside the local economy and sell their products within. It is assumed that those industries identified as "secondary" exhibit certain common practices. Many full-time jobs in these firms are held by wives and dependents of local male household heads. Generally, the same number of new jobs in secondary industries as in basic industries will not lead to the same population effects. The practice of hiring wives and other dependents in the secondary industries tends to lessen the attractions of new residents as opposed to new jobs in the basic industries.

The purpose of disaggregating industries into the five industrial classifications is to account for differences in employment patterns. Quantifying these differences is done in the following manner. Four distinct types of employees are identified for further study. The employee categories include married males, single adults over 18, wives and dependents (members of households under 19), and seasonal labor. The purpose of disaggregating total employment is due to the differences in impact on population among employees typed. For instance, employment growth in industries that primarily hire married males will imply a greater population influx than new employment growth in industries that hire a relatively larger percentage of wives and dependents. Two sources of information are used to determine the percentage of employment in each industry held by the four classes of employees listed above. Information is obtained from the U. S. Decennial Census and an employer survey of the area, and are compiled for the year 1970.[9/] The information obtained from

9/ The employer survey was originally done for the Task Force Report prepared for the Governor of the State of Oregon.

the two data sources is summarized in Table 6.

Table 6. Percent Married Male, Single Head of Household, Dependents, and Seasonal Employees in the Five-Sector Economy of the Three-County Region

Labor Force Profile / Economic Sector	Permanent Labor				
	Percent Married Males	Percent Single Adults		Percent Wives, and Dependents Under 18	Percent Seasonal
		Male	Female		
Farming	60	10	0.0	5	25
Agribusiness and Food Processing	50	12	13	25	NA
Non-Local Construction	10	90[a/]	0.0	0.0	NA
Basic Industry	85	10	5	0.0	NA
Secondary Industry	50	10	15	25	NA

[a/] Includes married males, but not expected to have families present.

It is assumed that the employee mix which existed in 1970 will continue throughout the years of the study. Although it is known that there will be some changes in the mix of job skills in most industries, and this will tend to affect the male, female, and seasonal mix of employees, it is impossible at this time to account for those changes.

The total labor force associated with each employee type is computed by multiplying total employment by the percentage of each type of employee in the five industry groups. However, since the purpose of all these calculations is to predict expected in-migration, totals for wives and dependents are not accumulated. Wives and dependents throughout the rest

of the model are treated as a residual labor force for the following reason. It can be assumed that migration into or out of one economic area will not generally occur in order to acquire employment for a wife or dependents. This is not to say that it won't occur, only that it is an insignificant portion of total migration. Migration is assumed to take place in this sub-model only to acquire employment for heads of households. In this model, heads of households are identified, as in the United States Census, as married males and single adults. Therefore, totals are accumulated for the employee types labelled "married males", "single males", and "single females", as in Table 7.

Table 7. Total Employment By Heads of Households for Baseline Employment Projections: Year 1970

Employment / Industry	Employment[a]	Married Male		Single Male		Single Female[c]	
		Percent	Total	Percent	Total	Percent	Total
Farming	2,464	60[b]	1,478	10	264	0.0	0
Agribusiness and Food Processing	2,160	50	1,080	12	259	13	281
Non-Local Construction	36	10	4	90	32	0.0	0
Basic	2,192	85	1,863	10	219	5	110
Secondary	11,775	50	5,888	10	1,178	10	1,178
Total	18,627		10,313		1,952		1,569

[a] Source: Unpublished data developed for, "Oregon's Northern Columbia River Basin Irrigation System Development Project", Oregon State University Extension Service prepared by Dr. Roger Kraynick.

[b] Percentages in rows are net of those for wives and dependents.

[c] Includes single female heads of households with dependent children.

Estimating Labor Force Associated With Unemployment. Once the labor force associated with employment is estimated, it becomes necessary to account for the labor force associated with unemployment. A truce picture of expected future labor force is only complete when both the effects of employment and unemployment are measured.

The first step is accounting for the labor force associated with unemployment is to determine an expected unemployment rate for the period of projection. A fairly familiar approach in this instance is to use two or three different rates, and identify one as the most likely. In the present case, however, this practice is not used for the following reasons. Since about 1970, employment growth has put downward pressure on the unemployment rates of the three counties. Those unemployment rates began to stabilize during 1974 and 1975 at a little more than six percent, especially in the rapid growth counties of Morrow and Umatilla.[10/] Should the Pebble Springs nuclear facility in Gilliam become a reality, Gilliam County's unemployment rate should also be favorably affected. While it is likely little doubt that the rate of growth in the employment experienced since about 1970 in the three-county region will abate, if employment growth does continue there is little reason to expect unemployment rates to significantly exceed the 1974 and 1975 levels. On the other hand, since five years of rapid economic development did not force the yearly average unemployment rate below six percent, there is no evidence to support using a lower rate for these predictions. Therefore, in the projections made here, an unemployment rate of six percent is used for each year.

10/ Average unemployment rates for Gilliam in 1974 and 1975 were 6.2 and 6.7. In Morrow the rates were 6.7 and 5.6, respectively. Umatilla County unemployment rates for the two years were 7.0 and 8.6 [29, years 1974, 1975].

The final step in relating unemployment to labor force for this submodel is to disaggregate total unemployment into the respective heads of households employee categories. The task is to compute how many married males, and single male and female heads of household will be associated with a six percent unemployment rate. On the basis of United States labor force statistics, a six percent unemployment rate translates in a .036 unemployment rate for heads of households.[11/] Since total labor force minus employment equals unemployment, and employment and the unemployment rate are known, unemployment can be calculated by dividing total employment by the quantity one minus the unemployment rate and then subtracting total employment (equation 5).[12/] An example for the year 1970 follows in Table 8.

5. $$UNEMP_p = TE_p/(1 - UR) - TE_p$$

Where

UNEMP = Unemployment

p = 1-3 (1 = married male, 2 = single male, 3 = single female)

TE = Total employment

1 - UR = One minus the unemployment rate

11/ In the ten years between 1965 and 1975, total unemployment rate averaged .667 higher than unemployment rates for heads of households. In one year, 1971 when total unemployment was 5.9 percent, unemployment for heads of households was exactly 3.6 percent. Therefore, a total projected unemployment rate of 3.6 percent is used for heads of households [30, years 1965-75].

12/ Total labor force associated with unemployment and employment is simply calculated by: TE/(1 - UR).

Table 8. Total Heads of Households in the Three-County Labor Force: 1970

Employees	Total Employment[a/]	Total Unemployment[b/]	Total Labor Force
Married Male	10,313	380	10,693
Single Male	1,952	73	2,025
Single Female	1,569	59	1,628
Total	13,834	512	14,346

a/ From Table 7.

b/ Calculated as in equation five, with employment from column one and an unemployment rate .036.

Estimating Labor Force Size on the Basis of Resident Supply of Labor. The model used in this research predicts population on the basis of the difference between two estimates of labor force size. The estimate just completed amounts to a yearly projection of what the actual labor force size will be in the future. The second estimate computed below is a yearly estimate of labor force size available from the resident population. The difference between the two is the estimated net migration.

The procedure to estimate the second value for labor force size used in this sub-model begins by carrying the resident population at the beginning of each year through the year. This is accomplished by aging everyone one year and applying the appropriate fertility and mortality statistics. The labor force associated with the resident population for the year is computed by multiplying the single-year age cohorts by the appropriate labor force participation rates and the estimated percent of males and females who are married as in equation 6. The percent married by sex and age is reported in Table 9.

6. $$RSL_p^t = (POP_{jk}^t \cdot PM_{jk}) \cdot LFPR_{jk}$$

where

RSL = Resident supply of labor

POP = Population

t = The beginning of any given year

j = 18 - 86

k = 1, 2 (1 - male, 2 = female)

PM = Percentage married from Table 9

LFPR = Labor force participation rate from Table 10

P = 1-3 (1 = married male, 2 = single male, 3 = single female).

Table 9. Percentage of Males and Females Between the Ages of 18 and 65 Who Are Married

Age	Male	Female
18 - 19	9.5	23.8
20 - 24	41.3	58.9
25 - 29	75.4	82.4
30 - 34	86.4	86.0
35 - 44	88.0	86.1
45 - 54	89.5	82.1
55 - 64	87.0	69.0

Source: U. S. Bureau of the Census, Current Population Reports, 1970 (5, series P-20, No. 255).

Estimating the appropriate labor force participation rates during future years is a significant problem. There is considerable theoretical evidence to suggest that the resident labor force participation rates will increase during a period of rapid employment growth other things remaining

the same [26, pp. 122, 123]. Empirical evidence, however, which could support adjusting labor force participation rates for the three-county area to account for changes caused by employment growth is absent. Therefore, the only adjustments used in this study are those predictions of future labor force participation rates, displayed in Table 10, which differ only on the basis of changes expected nationally in future years. No attempt is made to adjust participation rates due to the expanded employment opportunities in the area.

Table 10. Male-Female Labor Force Participation Rates in Percent By Age

Male	1970	1980	1990	Female	1970	1980	1990
18-19	68.8	65.8	64.6	18-19	53.4	56.7	56.1
20-24	85.1	83.0	82.1	20-24	57.5	61.0	67.2
25-35	95.0	94.6	94.4	25-35	44.8	49.9	51.5
35-44	95.7	95.1	94.7	35-44	50.9	53.1	55.2
45-54	92.9	91.9	91.5	45-54	54.0	53.4	58.0
55-64	81.5	79.1	77.5	55-64	42.5	40.8	45.8
65 ↑	25.8	21.2	19.3	65 ↑	9.2	8.4	8.3

Source: U. S. Bureau of Labor Statistics, 1970, "Handbook of Labor Statistics" (30, year 1970).

Net Migration. Net migration associated with the expanding employment base in the three counties is computed by first calculating the difference between the two measures of labor force estimated above for heads of households: the difference between labor force size associated with the resident population in any one year (from Table 11) and expressed in equation seven. An example for the year 1970-1971 follows in Table 11.

7. $Mig_p = (Emp_p + Unemp_p) - RSL_p$

where

Mig = Migration of labor force

Emp = Expected employment

Unemp = Expected unemployment

RSL = Resident supply of labor

Table 11. Migration of Labor Force Associated With Employment Growth and Total Population Associated With Labor Force Migration: 1970-1971

Migration / Employee Type	Expected Labor Force[a/]	Actual Labor Force[b/]	Migration of Labor Force	Family Size Multiplier	Net Population Associated With Migration
Married Male	10,693	9,958	+ 735	3.58	2,631
Single Male	2,025	3,000	- 975	1.00	- 975
Single Female	1,628	1,718	- 90	1.00	- 90
Total New In-Migrants					1,566

a/ From Table 8.

b/ Computed using Equation five.

Population Changes Associated With Net Migration Projections. Since net migration includes married males as well as bachelors, the total population associated with in-migration or labor force is inflated by a family size multiplier (Equation 8).

8. $POPMIG = [Mig_1 \cdot (3.54)[+ Mig_{2,3}$

where

POPMIG = Total population associated with migration in any year

MIG_1 = Married males migrants

$Mig_{2,3}$ = Single male and female migrants.

Total in-migration of married males in multiplied by 3.58 which is the estimated national family size in 1970 (see Table 11) [5, series p-20]. Since there is no way of determining sex of children or their ages, it is estimated that they will be 50 percent female and 50 percent male and will be distributed evenly between the ages of 0 and 18. The men and women who move into the area are assumed to be evenly distributed between the ages of 19 and 39. The ages 19 and 39 are chosen because the in-migrants are moving to the area for employment reasons, and adults between the ages of 19 and 39 are in their prime working years. This assumption is further supported by research which indicates that the ages 20 - 39 represent the most mobile members of our society [16, p. 53].

A Discussion of Essentially Non-Economic Components as a Source of Population Change

Two other variables which can have an effect on population size are investigated. They include the tendency of high school graduates to leave the area and the proportionately high rate of senior citizens in the three-county area. Of the two only the effects of high school graduates is explicitly treated in the population projection model.

On the basis of the two studies, one done by Oregon Department of Education as a follow-up on 1975 high school graduates, and a second done by the Intermediate Education District of Umatilla and Morrow Counties, it was determined that approximately half of all high school graduates will leave the three-county area within two years of graduation [21, p. 8 and 17, p. 137]. Not all who leave the area upon graduation can be counted as permanent exits from the area, as about 75 percent left to further their

education at some school outside of the area, and a few of these will return. On the other hand, not all who stayed in the community for the first two years will remain for an extended period of time. Therefore, it was decided that in the model, one-half of all 18 year olds would be subtracted from that single year age cohort each year.[13/]

Due to the fact that senior citizens in the three-county area represent a significantly higher proportion of the total population than in most counties in Oregon, an investigation was undertaken to determine the reason for that fact [7, p. 39-44]. In many areas of the United States, providing services to retirees moving into the area means new jobs in the same way a new potato processing plant means new job opportunities in the tri-county area. It became important, therefore, to determine if senior citizens were in fact migrating into the area to retire. Contacts with those serving retirees in the area (including nursing homes and retirement associations) indicated that new senior citizens were not moving into the three counties. According to Holden and Shepard in their study of migration in Oregon, the most likely explanation for the high proportion of older citizens in the area is the fact that during the 1960's the three-county area was losing population rapidly in the 20 to 39 age category [16, p. 45]. Since senior citizens are less mobile, their proportion increased, simply because others in different age groups left.

13/ This technique is based on the assumption that all 18 year olds graduate from high school, this is not likely for any area and thus is a source of possible error. The error should not be significant, however, due to the fact that there are relatively few 18 year olds who are not high school graduates, and of course some of those not graduating will leave the area.

CHAPTER IV

STATISTICAL RESULTS AND INTERPRETATION

Results obtained from the application of the population projection model to actual, assumed, and projected data for Umatilla, Morrow, and Gilliam Counties for the years 1960-1990 are presented in this chapter. Projections for the years 1960-1975 are used to test the accuracy of the model. The predictions for 1975-1990 constitute the major results of this research. In the following sections, the predictions for the years 1960-1975 are compared with the 1970 decennial census count, and with 1975 population projections furnished by the Center for Population Research and Census at Portland State University, Portland, Oregon. The predictions for the years 1975-1990 are analyzed with respect to anticipated changes in the size of population in selected age groups for the three counties. The particular age groups of interest are total population, school age (5-19), and senior citizens (65 and above). Finally, a discussion of the relative successes and failures of this research is followed by suggestions for further research, and concluding remarks.

Relative Accuracy of the Proposed Model

The model is run yearly through the years 1960-1970 and 1970-1975, based on the employment totals in Table 12 below. The employment totals are prepared for five-year intervals, and single-year totals are compiled by simple interpolation. Single-year employment levels are available for the non-local construction industry, however, and are used instead of interpolated values. The non-local construction levels of employment are compiled by year due to the relatively short duration of construction

activity. At least one major construction project was not started in 1960 and was completed before 1970. Using interpolated values would have led to population estimates which would not have reflected the true impact of the construction employment on population size during the 1960-1970 time period.

Table 12. Employment by Industry for Umatilla, Morrow, and Gilliam Counties: 1960-1975

Year	County	Farming	Agricultural Services and Processing	Basic Industry	Non-Local Construction	Secondary Industry
1960	Umatilla	1,350	1,606	1,777	20	8,060
	Morrow	468	151	93	0	857
	Gilliam	278	104	30	0	507
	Total	2,096	1,861	1,900	20	9,424
1965	Umatilla	1,826	1,517	1,568	70	8,995
	Morrow	677	163	143	22	787
	Gilliam	377	109	49	348	1,003
	Total	2,880	1,789	1,760	440	10,785
1970	Umatilla	1,725	1,865	1,995	40	9,726
	Morrow	493	59	151	0	1,096
	Gilliam	222	31	4	0	462
	Total	2,440	1,955	2,150	40	11,274
1975	Umatilla	2,989	1,960	2,110	86	9,690
	Morrow	746	416	229	24	1,640
	Gilliam	211	94	14	5	504
	Total	3,946	2,470	2,353	115	11,834

Source: Unpublished data, "Oregon's Northern Columbia River Basin Irrigation System Development Project: Employment and Sub-Area Distribution, 1960-1970", Oregon State Extension Service; Prepared by Dr. Roger Kraynick.

The results of the initial run between 1960 and 1970 for selected age groups are reported in Table 13. The predicted population size for all three counties is compared to the enumerated population in 1970 from the

Table 13. Comparison Between Enumerated and Predicted 1970 Population by Selected Age Groups: Morrow, Umatilla, and Gilliam Counties, Oregon

Age	Enumerated Population[a]		Predicted Population		Difference Between Actual and Enumerated		Difference in Percent of Predicted to Enumerated	
	Male	Female	Male	Female	Male	Female	Male	Female
0 - 4	1,984	1,927	2,108	2,124	+ 124	+ 197	+ 6.25	+10.22
5 - 19	7,757	7,555	7,869	7,768	+ 112	+ 213	+ 1.44	+ 2.82
20 - 64	13,017	13,516	13,139	13,139	+ 122	- 377	+ 0.94	- 2.79
65 & above	2,827	3,147	2,432	2,823	- 395	- 324	-13.97	-10.30
TOTAL	25,585	26,145	25,548	26,835	- 37	+ 690	- 0.15	- 2.64

[a] Source: Bureau of the Census, General Population Characteristics of Oregon: 1970. United States Department of Commerce, Washington, 1971 (7).

United States decennial census. The total male and female predictions were below the enumerated values by -0.15 percent and -2.64 percent respectively. However, when selected ages are compared the relative accuracy of the predictions is seen to differ somewhat more from the census enumeration.

The largest total error is found for those above 65. The predictions were 13.97 percent for males and 10.30 percent for females below the enumerated population. This means that in 1970, for all three counties, there were 395 more males and 324 more females than were predicted by the model. The most likely source of the error above is the model itself. In the present model, the totals above the age of 39 are adjusted only for aging and mortality. It is very likely that during the ten-year period from 1960 to 1970 there was in-migration of small numbers of people above the age of 65. It would take only 10 to 15 new in-migrants per year in each county to account for the total error. The second largest source of error was in the pre-school population where predictions were 6.25 percent higher for males and 10.22 percent higher for females than the enumerated values. This amounts to predicting 124 males and 197 females more than the census count. The most likely source of error in the pre-school population totals is not easily discerned. Any number of factors could account for it. First, the family size multiplier of 3.58 may be too large. Second, given that the region was a net exporter of labor from at least 1960-1965, the model may not have exited labor force of the same age as which actually left. For example, it is likely that the young (prime child-bearing years) were the first to leave, yet the model exits labor force evenly between the ages 19 and 39. Third, local fertility rates may not be equal to the national rates used in the model. The school-age

population (5-19 years of age) prediction is fairly accurate with only a 1.44 percent and 2.82 percent over-prediction for males and females, respectively. This amount to predicting 112 males and 213 females more than the census for those ages. In 1970 the adults between 20 and 64 accounted for 51.29 percent of the total population. The predictions for males between 20 and 64 were 0.94 percent above the enumerated population. The female population predicted in the model was 2.79 percent below the census count.

A second test of the model is provided by a projection from 1970 to 1975. Again the model is run by year, but this time for a total of only five years. Census data are not available for 1975, so the projections of this model are compared to another set of predictions for 1975, prepared by the Center for Population Research and Census. Comparisons on a county-by-county basis are reported in Table 14.

Since male and female values are not available from the Center for Population Research and Census, only total population is compared. The two predictions for total population are closest for Umatilla County where there is only a 3.09 percent difference in the two predicted values. In Gilliam County, the difference rises to 9.01 percent. In both cases the model developed for this research predicted larger total population than did the Center for Population Research and Census. The differences equal 1,487 and 191 more people predicted for Umatilla and Gilliam Counties, respectively, than were projected by the Center for Population Research and Census.

A very large and significant difference exists between the predicted population of Morrow County in 1975. The Center for Population Research and Census estimates a population of 5,190 for Morrow County in 1975,

while the prediction from the model developed here is 7,099. Thus, the present estimate differs by 1,909 people, or 35.78 percent, from the Center's prediction. According to the projections made by the Center for Population Research and Census, Morrow County's population grew by only 725 people between 1970 and 1975. In an attempt to account for the difference in the two predictions, two variables are analyzed. The employment and unemployment data used in the present research indicates that there were 1,256 new jobs created between 1970 and 1975, and unemployment grew from 120 to about 174 people. One thousand fifty-six jobs is a 69.8 percent increase over the 1970 level. High school graduates could have taken only a few of the total new jobs. There are approximately 100 males and females graduating from high school in Morrow County each year during this time period. Of those about half left the area. This means that without any migration or significant change in the labor force participation rate, only 250 people were added to Morrow County's labor force to fill approximately 1,256 new jobs. Since there is an excess of approximately 1,000 jobs, it seems likely that there was migration into Morrow County during this period, and the actual population in 1975 is something in excess of 5,190.

As can be noted from the discussion above, the Center's predictions for 1975 in Morrow County appear not to account for a relatively large increase in employment in Morrow County between 1970 and 1975. The use of historical trends to predict population (as is done at the Center for Population Research and Census) is a good technique only so long as events do not take place which alter the trends. The unanticipated growth in Morrow County employment is a good example of an event which affects the accuracy of trend predictions.

The Center's predictions for 1975 in Umatilla and Gilliam Counties are much closer to the ones predicted here, and that is expected since neither Umatilla nor Gilliam experienced substantial changes in employment between 1970 and 1975.

Table 14. Comparison Between Two Predicted 1975 Population Totals: Morrow, Umatilla, and Gilliam Counties

County	Center for Population Research & Census[a/]	Present Projection	Difference in Percent	Actual Difference
Umatilla	48,200	49,687	+ 3.09	1,487
Morrow	5,190	7,099	+ 36.78	1,909
Gilliam	2,120	2,311	+ 9.01	191
Total	55,510	59,097	---	---

[a/] Source: Center for Population Research and Census. "Population Estimates of Counties and Incorporated Cities of Oregon", Portland State University, Portland, Oregon, 1975 (9).

Projections: 1975 - 1990

The population predictions for 1975-1990 constitute the major empirical results of this research. As such, the 1975-1990 projections are provided with the most amount of disaggregation, and receive the most attention. Population projections are made for each of the three counties for each of the three industrial development scenarios discussed in Chapter III.

The complete results of the population projections are reported in Appendix B. In Appendix B, population is reported by single-year age and sex cohorts for five-year intervals (1970, 1975, 1980, 1985, 1990) for each of the three counties and three scenarios. Appendix B also includes the employment totals, both actual and projected from 1970-1990.

Total Population

The following discussion entails a description of the most significant results with respect to total population and selected age groups. Total population projections at five-year intervals are reported for each of the three counties and each of the three scenarios in Table 15. Beginning with Gilliam County, the first point of interest is the fact that under none of the three scenarios is Gilliam County affected to the same degree as Umatilla and Morrow. All other things remaining the same, only the addition of the Pebble Springs nuclear facility near Arlington will even keep total population at or above the 1970 level. In both of the other scenarios, Gilliam loses some population between 1970 and 1990. The addition of the nuclear plant is estimated to add some 514 people to Gilliam's population between 1970 and 1990, a net increase of approximately 22 percent for the twenty-year projection period. It should be noted that with the present uncertainty with respect to the actual construction of the nuclear facility, most of the increase will probably occur between 1978 and 1990.

In Umatilla, the first of the scenarios (minor development of the Stanfield/Westland Irrigation Project) results in a 27 percent increase in total population between 1970 and 1990, from 44,923 to 56,901. Scenario two (major development of the Stanfield/Westland Irrigation Project) leaves Umatilla with a 34 percent increase, 60,239 population by 1990. Umatilla County will experience the largest increase in its population (20,497 new people--a 46 percent increase) between 1970 and 1990 in scenario three, which is if all potential development takes place. As can be seen from the above figures, even with just the development that is now certain to occur, significant increases can be expected in the total population of

Umatilla County. Given the fact that most of the new development is centered in the Hermiston/Umatilla area, it is also fairly certain that those two towns and several smaller ones in the vicinity can expect a substantial growth in their population over the next two decades.

Table 15. Enumerated and Projected Total Population by Scenario for Umatilla, Morrow, and Gilliam Counties: 1970-1990

Development Level	County	Total Population By Year				
		1970	1975	1980	1985	1990
Conservative	Umatilla	44,923	49,687	52,638	55,209	56,901
	Morrow	4,465	7,099	8,560	8,844	8,822
	Gilliam	2,342	2,300	2,313	2,325	2,283
	Total	51,730	59,086	63,511	66,378	68,006
Moderate	Umatilla			52,793	57,097	60,239
	Morrow			8,320	8,894	8,973
	Gilliam			2,283	2,279	2,248
	Total			63,396	68,270	71,460
Extensive	Umatilla			54,501	60,537	65,420
	Morrow			9,080	9,803	9,966
	Gilliam			3,423	2,961	2,856
	Total			67,004	73,301	78,242

Morrow is the most affected county by present and future industrial developments. One aspect of Morrow's growth is different, however, than the other two counties. Morrow experienced nearly a 59 percent increase in its population between 1970 and 1975 by addition 2,634 people. Even the third scenario with all developments becoming a reality shows Morrow's population increasing by less than the 1970-1975 percentage increase, or by some 40 percent (2,867 people) by 1990. Morrow will add more people

after 1975 than between 1970 and 1975, but the rate of growth is less. Morrow County is projected to have 8,822, 8,973, or 9,966 people by 1990, respectively, for the three scenarios. In all three cases the growth expected is nearly evenly divided between the five years between 1970 and 1975, and the period between 1975 and 1990.

Selected Age Cohorts

School Age Population. The first age group of interest is the projected school-age population reported in Table 16. As with total population, Gilliam County is least affected of the three counties. As opposed to total population, however, Gilliam County is expected to have fewer total students through the projection period, for all scenarios, than it had in 1970. This is due in part to the declining birth rate evidenced by the 1970 birth rates in comparison to those in the 1960's, and the relatively small size of the total new population expected in Gilliam County.

Umatilla County shows a gradual growth in its student population through all years for the first two scenarios. Only in the third scenario does there appear to be a rapid acceleration in the number of new students in Umatilla County. By 1990, under the third scenario, Umatilla's school-age population has increased by over 31 percent, or about 3,655 new students, from 1970 levels.

Morrow County, as with population, shows the largest proportional increase in its student population of the three counties. Even in the conservative scenario, Morrow County is expected to see 824 new students, a 66 percent increase, between 1970 and 1990. Interestingly enough, the second scenario, which adds employment mostly in the farming sector, adds only a few more students than the more conservative scenario. Only 19

Table 16. Actual and Projected School-Age Population by Scenario for Umatilla, Morrow, and Gilliam Counties: 1970 - 1990.

County	Year	Level of Industrial Development											
		Conservative				Moderate				Extensive			
		K-6	7-9	10-12	Total	K-6	7-9	10-12	Total	K-6	7-9	10-12	Total
Umatilla	1970	5,847	2,813	3,035	11,695								
	1975	5,703	2,918	3,014	11,635								
	1980	6,632	2,603	2,896	12,131	6,644	2,611	2,903	12,158	6,782	2,668	2,961	12,411
	1985	7,166	3,138	2,837	13,141	7,393	3,227	2,924	13,544	7,689	3,339	3,037	14,065
	1990	7,057	3,246	3,324	13,627	1,493	3,410	3,475	14,378	8,091	3,601	3,658	15,350
Morrow	1970	616	305	321	1,242								
	1975	816	405	414	1,635								
	1980	1,004	413	465	1,882	980	403	454	1,837	1,043	427	479	1,949
	1985	1,187	432	388	2,077	1,190	438	388	2,016	1,268	461	412	2,141
	1990	1,075	508	483	2,066	1,080	515	490	2,085	1,196	542	510	2,248
Gilliam	1970	330	167	176	673								
	1975	248	153	178	579								
	1980	250	108	111	469	245	108	111	464	319	138	141	596
	1985	273	109	118	500	265	104	112	481	258	86	94	438
	1990	264	117	111	492	258	113	110	481	243	86	68	397

more students are predicted in the second scenario, in comparison to those projected in the first. The third scenario again adds a considerable number of new students to Morrow County. Full industrial development of all proposed projects leaves Morrow County with 9,477 new students, or a 81 percent increase over 1970 levels.

Population Over 65 Years of Age. The final age group to be discussed here is the population over 65 years of age. Given the assumptions and procedures used here, the population over 65 will continue to grow in the three-county area at a relatively stable rate. During the period of the projections (1975-1990), those who are 65 and above, or who will be 65 by 1990, are not generally affected or likely to migrate into the region. The most important aspect of the population above 65 is not shown in any of the projections. The problem lies in the size of the population over 65 after 1990. The reason for this is the fact that the populations of Morrow, Umatilla, and Gilliam Counties are likely to grow significantly between 1975 and 1990 in those ages between 20 and 39. What this means is, that sometime around the year 2000, the population above 65 years of age will begin to increase very rapidly. This is not too important now, but since no indication of that fact is in evidence in any of the predictions, it is important to mention it as a future event, which is not free of consequences, and they should not be ignored.

Limitations and Further Research

The most serious difficulty with the proposed model lies in the availability of good local data from the counties of interest. Secondary data sources are used in most cases, and generally refer to national

statistics. As with most research, the constraints of time and money are the most limiting variables. Given the relative accuracy of the 1970 predictions (total population prediction was less than two percent from enumerated), there may be some point in the argument that the expenditure of more time and money to collect local statistics would not be cost-effective.

Second, more flexibility in the model may have produced more accurate results. Specifically, no matter what happened in the economy, those over the age of 39 were simply advanced yearly by one age-cohort and the mortality rates were applied. It seems likely that there is some migration of those over 40 both into and out of the three-county area. It would also have been better to allow the unemployment rate and the labor force participation rate to vary. As mentioned in Chapter III, it seems likely that in a rapid growth situation, local labor force participation rates are likely to rise. This would tend to lessen the number of in-migrants as opposed to what is predicted by the model.

Potentials for future research are many and varied. Possibly the most important would be an analysis of changes which can be expected in the local labor force participation rates in relatively rural areas experiencing rapid economic development. A second extremely important issue to most people involved with the local community is who gets the new jobs which are created by industrial development. In this model, unemployment is set at a predetermined level, and no attempt is made to determine who, migrant or resident, fills the roles of unemployed. If industrial development is a tool in rural areas to combat local unemployment, research is necessary to determine who benefits from the new employment opportunities associated with the growth.

Conclusion

In this research a model is developed to predict population for relatively rural areas experiencing rapid economic development. Of the many ways to predict population size, in this research a "demographic-economic" model is chosen for use. The economic variables which aid in projecting population are total employment, and net changes in employment associated with economic growth. The model developed for this research is applied to Oregon's Northern Columbia River Basin Counties of Morrow, Umatilla, and Gilliam. Each county is or is expected to experience rapid growth in its agricultural and/or industrial sectors in the next few years. Using employment projections to the year 1990, population projections are made at five-year intervals between the years 1970 and 1990.

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APPENDIX A

Sprague Multiplier

Sprague Multiplier

For several reasons, single-year cohorts are used in the population projection model in this research. In order to acquire single-year values from census data, which only report five-year totals above the age of 19, a Sprague Multiplier was used. The Sprague Multiplier is a commonly used technique among demographers to interpolate aggregate quantities.

Basically, the Sprague Multiplier is a formula which yields values which can be used to accurately divide evenly spaced groups (such as five-year age cohorts) into fifths while maintaining totals. In the following table, the Sprague coefficients which are used to interpolate the census five-year cohorts are presented. A more complete description of the Sprague Multiplier can be found in an article by Thomas Bond Sprague called "Explanation of a New Formula For Interpolation," in the Journal of the Institute of Actuaries, 22:270, 1880-81.

Table 17. Sprague Coefficients

Interpolated Subgroup	Coefficients to be applied to--				
	G_1	G_2	G_3	G_4	G_5
	First panel				
First fifth of G_1	+.3616	-.2768	+.1488	-.0336	
Second fifth of G_1	+.2640	-.0960	+.0400	-.0080	
Third fifth of G_1	+.1840	+.0400	-.0320	+.0080	
Fourth fifth of G_1	+.1200	+.1360	-.0720	+.0160	
Last fifth of G_1	+.0704	+.1968	-.0848	+.0176	
	Next to first panel				
First fifth of G_2	+.0336	+.2272	-.0752	+.0144	
Second fifth of G_2	+.0080	+.2320	-.0480	+.0080	
Third fifth of G_2	-.0080	+.2160	-.0080	.0000	
Fourth fifth of G_2	-.0160	+.1840	+.0400	-.0080	
Last fifth of G_2	-.0176	+.1408	+.0912	-.0144	
	Middle panel				
First fifth of G_3	-.0128	+.0848	+.1504	-.0240	+.0016
Second fifth of G_3	-.0016	+.0144	+.2224	-.0416	+.0064
Third fifth of G_3	+.0064	-.0336	+.2544	-.0336	+.0064
Fourth fifth of G_3	+.0064	-.0416	+.2224	+.0144	-.0016
Last fifth of G_3	+.0016	-.0240	+.1504	+.0848	-.0128
	Next to last panel				
First fifth of G_4		+.0144	+.0912	+.1408	-.0176
Second fifth of G_4		-.0080	+.0400	+.1840	-.0160
Third fifth of G_4		.0000	-.0080	+.2160	-.0080
Fourth fifth of G_4		+.0080	-.0480	+.2320	+.0080
Last fifth of G_4		+.0144	-.0752	+.2272	+.0336
	Last panel				
First fifth of G_5		+.0176	-.0848	+.1968	+.0704
Second fifth of G_5		+.0160	-.0720	+.1360	+.1200
Third fifth of G_5		+.0080	-.0320	+.0400	+.1840
Fourth fifth of G_5		-.0080	+.0400	-.0960	+.2640
Last fifth of G_5		-.0336	+.1488	-.2768	+.3616

APPENDIX B

Computer Program Listing

```
      1              PROGRAM CONTROL(INPUT,OUTPUT)
                     CALL POPH
                     C                                                              C
                     C      XX    XX    XX    XX    XX    XX    XX    XX    XX    XX  C
                     C       XX  XX      XX  XX      XX  XX      XX  XX      XX  XX   C
                     C        XXXX        XXXX        XXXX        XXXX        XXXX    C
                     C      XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  C
                     C      XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  C
     10              C        XXXX        XXXX        XXXX        XXXX        XXXX    C
                     C       XX  XX      XX  XX      XX  XX      XX  XX      XX  XX   C
                     C      XX    XX    XX    XX    XX    XX    XX    XX    XX    XX  C
                     C                                                              C
                     C                                                              C
     15              C              XXXXXXXXX    XXXXXXXX   XXXXXXXXX   XX      XX  C
                     C              XXXXXXXXXX   XXXXXXXXX  XXXXXXXXX   XX      XX  C
                     C              XX      XX   XX      XX  XX      XX  XXX    XXX  C
                     C              XX      XX   XX      XX  XX      XX  XXXX  XXXX  C
                     C              XX      XX   XX  XX  XX  XX      XX  XX XXXX XX  C
     20              C              XXXXXXXXX   XX   XX  XX  XXXXXXXXX   XX   XX  XX  C
                     C              XXXXXXXXX   XX  XX   XX  XXXXXXXXX   XX      XX  C
                     C              XX          XX XX    XX  XX          XX      XX  C
                     C              XX          XXXX     XX  XX          XX      XX  C
                     C              XX          XXX      XX  XX          XX      XX  C
     25              C              XX          XXXXXXXXX   XX          XX      XX  C
                     C              XX          XXXXXXXX    XX          XX      XX  C
                     C                                                              C
                     C                                                              C
                     C      XX    XX    XX    XX    XX    XX    XX    XX    XX    XX  C
     30              C       XX  XX      XX  XX      XX  XX      XX  XX      XX  XX   C
                     C        XXXX        XXXX        XXXX        XXXX        XXXX    C
                     C      XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  C
                     C      XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  XXXXXXXXX  C
                     C        XXXX        XXXX        XXXX        XXXX        XXXX    C
     35              C       XX  XX      XX  XX      XX  XX      XX  XX      XX  XX   C
                     C      XX    XX    XX    XX    XX    XX    XX    XX    XX    XX  C
                     C                                                              C
                     C                                                              C
     40              C           THIS PROGRAM  IS GENERAL COMPONENT - COHOPT         C
                     C        POPULATION PREDICTION MODELBASED ON DEMOGRAPHIC AND   C
                     C        ECONOMIC (I.E. EMPLOYMENT) VARIABLES                  C
                            END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
4137 CONTROL

FILE NAMES MODE
0 INPUT 2041 OUTPUT

```
      SUBROUTINE POPM       73/73   OPT=1                    FTN 4.5+410      76/12/03. 10.25.19       PAGE    1

                      SUBROUTINE POPM
                      COMMON /A/ N,INITYR,NREG,NSCEN
                      COMMON/B/ACOH(100,2),BCOH(100,2),PCOH(100,2),PTOT(25,2),AREA(8),
                     1          SCENO(8)
                      CALL READIN
                      DO 30 I=1,NREG
                      DO 14 K=1,100
                      DO 14 J=1,2
                      ACOH(K,J)=0.
                      PCOH(K,J)=0.
                   14 BCOH(K,J)=0.
                      CALL REGION
                      SM=BCOH(34,1)
                      SF=BCOH(34,2)
                      PCOH(34,1)=BCOH(34,2)=0.
                      CALL SPRAGUE(BCOH,13,100,21)
                      BCOH(86,1)=SM
                      BCOH(86,2)=SF
                      DO 30 J=1,NSCEN
                      CALL SCENAR
                      DO 20 JJ=1,2
                      DO 20 II=1,86
                   20 ACOH(II,JJ)=BCOH(II,JJ)
                      DO 30 L=2,N
                      CALL COHORT(L)
                   30 CONTINUE
                      RETURN
                      END


      SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
     1  POPM

VARIABLES     SN  TYPE            RELOCATION
     3  ACOH      REAL      ARRAY    8          1214  AREA      REAL      ARRAY    8
   310  BCOH      REAL      ARRAY    8            76  I         INTEGER
   104  II        INTEGER                         1  INITYR    INTEGER             A
   103  J         INTEGER                       103  JJ        INTEGER
    77  K         INTEGER                       105  L         INTEGER
     0  N         INTEGER             A           2  NREG      INTEGER             A
     2  NSCEN     INTEGER             A         620  PCOH      REAL      ARRAY    8
  1130  PTOT      REAL      ARRAY    8        1224  SCENO     REAL      ARRAY    8
   102  SF        REAL                          101  SM        REAL

EXTERNALS     TYPE   ARGS
     COHORT           1                      READIN           0
     REGION           0                      SCENAR           0
     SPRAGUE          4

STATEMENT LABELS
     0  14                              0  20                              0  30
```

```
      1           SUBROUTINE READIN
                  COMMON /A/ N,INITYR,NREG,NSCEN
                  COMMON/B/ACOH(100,2),BCOH(100,2),PCOH(100,2),PTOT(26,2),AREA(8),
                 1        SCENO(8)
      5           COMMON /E/ EMPLOY(5,26),C(5,7),AUR,WEDRT(7,2),PARTRT(7,2,3),AGSNL
                  COMMON /D/ DCOH(86,2),DEADRT(86,2),DBABY(2)
                  COMMON /F/ FERTIL(7),BABES(2)
                  READ 101, INITYR,N,NREG,NSCEN,AUR,AGSNL
                  INITYR=INITYR-1
     10           READ 104,(FERTIL(I), I=1,7)
                  READ 105, ((DEADRT(I,J),J=1,2),I=1,85)
                  READ 106, ((C(I,J),J=1,7),I=1,5)
                  READ 107, (DBABY(I),I=1,2)
                  READ 108, ((WEDRT(I,J),I=1,7),J=1,2)
     15           READ 108, (((PARTRT(I,J,K),I=1,7),J=1,2),K=1,3)
                  RETURN
                  ENTRY REGION
                  READ 110, (AREA(I),I=1,8)
                  READ 102, ((BCOH(I,J),I=1,34),J=1,2)
     20           DO 15 J=1,2
                  DO 15 I=35,100
                15 BCOH(I,J)=0.
                  RETURN
                  ENTRY SCENAR
     25           READ 110, (SCENO(I),I=1,8)
                  READ 103, ((EMPLOY(I,J),I=1,5),J=1,N)
                  RETURN
                101 FORMAT (4I10,2F10.4)
                102 FORMAT(17F4.3)
     30         103 FORMAT (5F5.0)
                104 FORMAT(7F10.1)
                105 FORMAT(10F8.5)
                106 FORMAT(7F5.0)
                107 FORMAT (2F10.6)
     35         108 FORMAT(14F5.0)
                110 FORMAT(8A10)
                  END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
1 READIN 55 REGION 113 SCENAR

VARIABLES	SN	TYPE	RELOCATION							
0	ACOH	REAL	ARRAY	B	336	AGSNL	REAL			E
1214	AREA	REAL	ARRAY	B	245	AUR	REAL			E
7	BABES	REAL	ARRAY	F	310	BCOH	REAL	ARRAY	B	
232	C	REAL	ARRAY	E	330	DBABY	REAL	ARRAY	D	
0	DCOH	REAL	ARRAY	D	254	DEADRT	REAL	ARRAY	D	
0	EMPLOY	REAL	ARRAY	E	0	FERTIL	REAL	ARRAY	F	
254	I	INTEGER			1	INITYR	INTEGER			A
255	J	INTEGER			256	K	INTEGER			
0	N	INTEGER		A	2	NREG	INTEGER			A

```
      1           SUBROUTINE COHORT (KC)
                  COMMON/B/ACOH(100,2),BCOH(100,2),FCOH(100,2),PTOT(26,2),AREA(8),
                 1        SCENO(8)
                  COMMON /C/ ECOH(21,2),ECCOH(19,2)
      5           COMMON /D/ DCOH(86,2),DEADRT(86,2),BABY(2)
                  COMMON /F/ FERTIL(7),BABES(2)
                  IF(KC.EQ.2) CALL POPOUT(1)
                  CALL EMPOP (KC)
                  CALL POCC(KC)
     10           DO 15 J=1,2
                  IJ=19
                  DO 15 I=1,21
                  IJ=IJ+1
                  ACOH(IJ,J)=ACOH(IJ,J)+ECOH(I,J)
     15     15    CONTINUE
                  DO 10 J=1,2
                  DO 10 I=1,19
                  ACOH(I,J)=ECOH(I,J)+ECCOH(I,J)
                10  CONTINUE
     20           CALL BPOP
                  CALL DPOP
                  DO 20 I=2,86
                  DO 20 J=1,2
                20  ACOH(I,J)=ACOH(I,J)-DCOH(I,J)
     25           DO 25 J=1,2
                  DO 25 I=18,19
                25 ACOH(I,J)=.75*ACOH(I,J)
                  J=0
                30  J=J+1
     30           DO 40 I=1,86
                  II=87-I
                  IJ=II-1
                  ACOH(II,J)=ACOH(II,J)+ACOH(IJ,J)
                  ACOH(IJ,J)=0.
     35           IF(IJ.EQ.1.AND.J.EQ.1) GO TO 30
                  IF(IJ.EQ.1) GO TO 41
                40  CONTINUE
                41  ACOH(1,1)=BABES(1)
                  ACOH(1,2)=BABES(2)
     40           CALL POPOUT(KC)
                  RETURN
                  END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
    3 COHORT

VARIABLES	SN	TYPE		RELOCATION					
6	ACOH	REAL	ARRAY	B	1214	AREA	REAL	ARRAY	B
7	BABES	REAL	ARRAY	F	310	BCOH	REAL	ARRAY	B
530	BBABY	REAL	ARRAY	D	0	DCOH	REAL	ARRAY	D
254	DEADRT	REAL	ARRAY	D	52	ECCOH	REAL	ARRAY	C

```
      SUBROUTINE EMPOP(L)
      COMMON/B/ACOH(100,2),BCOH(100,2),FCOH(100,2),PTOT(26,2),APEA(8),
     1         SCENO(8)
      COMMON /C/ ECOH(21,2),ECCOH(19,2)
      COMMON /E/ EMPLOY(5,26),C(5,7),AUP,WEDRT(7,2),PARTRT(7,2,3),AGSNL
      DIMENSION ECAT(6,3) , FCOH(8,3) , DELEM(5) , EMIGR(3)
C
C
C
C     C MATRIX DEFINITION
C
C        C(I,1) - FRACTION OF EMPLOYEES ASSUMED TO BE MARRIED MALES
C
C        C(I,2) - FRACTION OF EMPLOYEES WHO ARE SINGLE MALES
C
C        C(I,3) - FRACTION OF EMPLOYEES WHO ARE SINGLE FEMALES
C
C
C
C        PART ONE  EMPLOYERS EXPECTED POOL
C
C
      K=1
      IT=0
    6 IT=IT+1
      DO 15 J=1,3
      DO 9 I=1,6
    9 ECAT(I,J) = 0.
      DO 10 I=1,5
   10 ECAT(I,J)=EMPLOY(I,L) * C(I,J) * (1+(C(I,4)/(1-C(I,4))))
      DO 12 I=1,5
   12 ECAT(6,J)=ECAT(6,J) + ECAT(I,J)
   15 CONTINUE
C
C
C        PART TWO - ESTIMATE OF INDIGENENT POOL
C
C
      DO 20 J=1,3
      DO 20 I=1,8
   20 FCOH(I,J)=0.
      FCOH(1,1)=ACOH(19,1) + ACOH(20,1)
      FCOH(1,2)=ACOH(19,2) + ACOH(20,2)
      FCOH(2,1)=ACOH(21,1)+ACOH(22,1)+ACOH(23,1)+ACOH(24,1)+ACOH(25,1)
      FCOH(2,2)=ACOH(21,2)+ACOH(22,2)+ACOH(23,2)+ACOH(24,2)+ACOH(25,2)
      I=2
      IB=15
   30 IB=IB+10
      IC=IB+9
      I=I+1
      DO 35 IA=IB,IC
      FCOH(I,1)=FCOH(I,1) + ACOH(IA,1)
   35 FCOH(I,2)=FCOH(I,2) + ACOH(IA,2)
      IF(I.LT.6) GO TO 30
      DO 40 I=56,86
      FCOH(7,1)=FCOH(7,1) + ACOH(I,1)
   40 FCOH(7,2)=FCOH(7,2) + ACOH(I,2)
```

```
C
C
      DO 60 I=1,7
      TEMP=FCOH(I,1)
      FCOH(I,1)=TEMP*WEORT(I,1)
      FCOH(I,3)=(1-WEORT(I,2))*FCOH(I,2)
   50 FCOH(I,2)=TEMP-FCOH(I,1)
C
C
C
      DO 6) I=1,7
      FCOH(I,1)=FCOH(I,1)*PARTRT(I,1,K)
      FCOH(I,2)=FCOH(I.2)*PARTRT(I,1,K)
   60 FCOH(I,3)=FCOH(I,3)*PARTRT(I,2,K)
C
      DO 70 J=1,3
      DO 70 I=1,7
   70 FCOH(9,J)=FCOH(8,J) + FCOH(I,J)
C
C
C
      DO 80 J=1,3
      ECAT(5,J)=ECAT(6,J) - FCOH(8,J)
   80 ECAT(6,J)=ECAT(5,J) * 0.35
C
      DO 85 J=1,3
      IF(ECAT(6,J).GE.0.0) IA=-1
      IF(ECAT(6,J).LT.0.0) IA=1
      IF(J.EQ.1) C(1,4) = C(1,4) + IA*C(1,5)
      IF(J.EQ.1) C(2,4) = C(2,4) + IA*C(2,5)
      IF(J.EQ.1) C(3,4) = C(3,4) + IA*C(3,5)
      IF(J.EQ.2) C(4,4) = C(4,4) + IA*C(4,5)
      IF(J.EQ.3) C(5,4) = C(5,4) + IA*C(5,5)
      IF(J.EQ.3) C(2,4) = C(2,4) + IA*C(2,5)
   85 CONTINUE
      DO 86 I=1,5
      IF(C(I,4).LT.C(I,6)) C(I,4) = C(I,6)
      IF(C(I,4).GT.C(I,7)) C(I,4) = C(I,7)
   86 CONTINUE
      IF(IT.LT.3.AND.L.EQ.2) GO TO 6
C
C
C
      FAMSZE=3.10
      ECTOT=ECAT(6,1) * (FAMSZE - 2.)
      EMTOT=ECAT(6,1) + ECAT(6,2)
      EFTOT=ECAT(6,1) + ECAT(6,3)
      ECAVG=ECTOT/38.
      EMAVG=EMTOT/21.
      EFAVG=EFTOT/21.
      DO 90 I=1,21
      ECOH(I,1)=EMAVG
   90 ECOH(I,2)=EFAVG
      DO 100 J=1,2
      DO 100 I=1,19
  100 ECOCH(I,J)=ECAVG
```

```
      1              SUBROUTINE POCC(KC)
                     COMMON /E/ EMPLOY(5,26),OCC(5,7),AUR,WEDRT(7,2),PARTRT(7,2,3),AGSNL
                     COMMON /O/ IOCC(6,6),IFAMSEC(6)
                     DIMENSION A(5,5),B(25)
      5              EQUIVALENCE (A,B)
                     DATA (B(I),I=1,25) /
                    1   .25  ,   .30  ,   .45  ,   .00  ,   .00  ,
                    2   .10  ,   .40  ,   .40  ,   .10  ,   .00  ,
                    3   .07  ,   .43  ,   .35  ,   .15  ,   .00  ,
     10             4   .10  ,   .70  ,   .20  ,   .00  ,   .00  ,
                    5   .10  ,   .20  ,   .10  ,   .60  ,   .00  /
                     DO 10 J=1,5
                     DO 10 I=1,5
                     OCC=EMPLOY(J,KC)*A(I,J)
     15             10 IOCC(I,J)=IFIX(OCC)
                     OCC=EMPLOY(1,KC) * AGSNL
                     IOCC(5,1)=IFIX(OCC)
                     DO 22 I=1,5
                    22 IOCC(I,6)=IOCC(6,I)=0
     20              DO 24 J=1,5
                     DO 24 I=1,5
                    24 IOCC(6,J)=IOCC(6,J) + IOCC(I,J)
                     DO 26 I=1,5
                     DO 26 J=1,5
     25             26 IOCC(I,6)=IOCC(I,6) + IOCC(I,J)
                     IOCC(6,6)=0
                     DO 30 I=1,5
                    30 IOCC(6,6) = IOCC(6,6) + IOCC(I,6)
                     RETURN
     30              END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
3 POCC

VARIABLES	SN	TYPE		RELOCATION					
122	A	REAL	ARRAY		336	AGSNL	REAL		E
245	AUR	REAL		E	122	B	REAL	ARRAY	
232	C	REAL	ARRAY	E	0	EMPLOY	REAL	ARRAY	E
120	I	INTEGER			44	IFAMSEC	INTEGER	ARRAY	0
0	IOCC	INTEGER	ARRAY	0	117	J	INTEGER		
0	KC	INTEGER		F.P.	121	OCC	REAL		
264	PARTRT	REAL	ARRAY	E	246	WEDRT	REAL	ARRAY	E

INLINE FUNCTIONS	TYPE	ARGS
IFIX	INTEGER	1 INTPIN

STATEMENT LABELS

0	10	0	22	0	24		
0	26	0	30				

```
      SUBROUTINE BPOP       73/73   OPT=1                    FTN 4.5+410        76/12/08. 10.25.19      PAGE     1

      1                     SUBROUTINE BPOP
                            COMMON/B/ACOH(100,2),BCOH(100,2),PCOH(100,2),PTOT(26,2),AREA(9),
                           1        SCENO(8)
                            COMMON /D/ DCOH(36,2),DEADRT(36,2),OBABY(2)
                        5   COMMON /F/ FERTIL(7),BABES(2)
                            BABES(1)=BABES(2)=0.
                            IA=9
                            DO 10 I=1,7
                            DO 10 IB=1,5
                       10   IA=IA+1
                            BABES(1)=BABES(1)+ACOH(IA,2)*FERTIL(I)/1000.
                            BABES(2)=RNOR(BABES(1),2.)
                            BABES(1)=BABES(1)-BABES(2)
                            DO 20 J=1,2
                       15   BABES(J)=BABES(J)-BABES(J)*OBABY(J)
                            BABES(J)=AINT(BABES(J))
                            RETURN
                            END


      SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
     1  BPOP

VARIABLES     SN  TYPE            RELOCATION
     0  ACOH      REAL      ARRAY    8          1214  AREA      REAL      ARRAY    8
     7  BABES     REAL      ARRAY    F           310  BCOH      REAL      ARRAY    8
   530  OBABY     REAL      ARRAY    D             0  DCOH      REAL      ARRAY    D
   254  DEADRT    REAL      ARRAY    D             0  FERTIL    REAL      ARRAY    F
    52  I         INTEGER                       51  IA        INTEGER
    53  IB        INTEGER                       54  J         INTEGER
   620  PCOH      REAL      ARRAY    8          1130  PTOT      REAL      ARRAY    8
  1234  SCENO     REAL      ARRAY    8

EXTERNALS          TYPE   ARGS
     RNOR          REAL      2

INLINE FUNCTIONS   TYPE   ARGS
     AINT          REAL      1  INTRIN

STATEMENT LABELS
     0  10                                0  20

LOOPS  LABEL    INDEX      FROM-TO    LENGTH    PROPERTIES
     6  10   *  I             8 11        168    NOT INNER
    14  10      IB            9 11         43    OPT
    34  20      J            14 16         48    OPT

COMMON BLOCKS   LENGTH
     B             668
     D             346
     F               9
```

```
      1              SUBROUTINE OPOP
                     COMMON/B/ACOH(100,2),BCOH(100,2),FCOH(100,2),PTOT(26,2),AREA(8),
                    1         SCENO(8)
                     COMMON /D/ DCOH(96,2),DEADRT(96,2),DBABY(2)
      5              DO 10 J=1,2
                     DO 10 I=1,85
                10   DCOH(I,J)=DEADRT(I,J)*ACOH(I,J)
                     DCOH(86,1)=5.5*DCOH(35,1)
                     DCOH(86,2)=9.3*DCOH(35,2)
     10              RETURN
                     END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS

1 OPOP

VARIABLES	SN	TYPE		RELOCATION						
0	ACOH	REAL	ARRAY	8	1214	AREA	REAL	ARRAY	8	
310	BCOH	REAL	ARRAY	8	530	DBABY	REAL	ARRAY	0	
0	DCOH	REAL	ARRAY	0	254	DEADRT	REAL	ARRAY	0	
27	I	INTEGER			26	J	INTEGER			
620	PCOH	REAL	ARRAY	8	1130	PTOT	REAL	ARRAY	8	
1224	SCENO	REAL	ARRAY	8						

STATEMENT LABELS

0 10

LOOPS	LABEL	INDEX	FROM-TO	LENGTH	PROPERTIES
3	10	* J	5 7	158	NOT INNER
12	10	I	6 7	38	OPT

COMMON BLOCKS	LENGTH
3	663
0	346

STATISTICS

PROGRAM LENGTH	308	24
CM LABELED COMMON LENGTH	17668	1014

```
      SUBROUTINE PCPOUT(KC)
      COMMON /A/ N,INITYR,NREG,NSCEN
      COMMON/B/ACOH(100,2),SCOH(100,2),PCOH(100,2),PTOT(26,2),AREA(8),
     1     SCENO(8)
      COMMON /D/ IOGO(6,6),IFAMSEC(6)
      DIMENSION ICOH(100)
      DIMENSION ITALL(3,3)
C
C
C
C  ****** FIRST PAGE  *****
C
      PRINT 2000
      CALL PAGCHK(KC)
      IYEAR=INITYR+KC
      PRINT 2010, (AREA(I),I=1,8), IYEAR
      PRINT 2012, (SCENO(I),I=1,8)
      PRINT 2020
      PRINT 2021
      PRINT 2022
      PRINT 2023
      PRINT 2030, (I,I=1,10)
      ITWO=IYEAR-1900
      PRINT 2024, ITWO
      IB=0
      M=10
      DO 51 IB=1,9
      IC=(IB-1)*10
      J=1
      IF(IB.EQ.9) M=5
      IA=IC+1
      IC=IC+M
   53 CONTINUE
      DO 45 I=IA,IC
   45 ICOH(I)=IFIX(PCOH(I,J))
      ISUM1=ISUM2=0
      IO=IA+4
      IE=IO+1
      DO 46 I=IA,IO
   46  ISUM1=ISUM1+ICOH(I)
       IF(IB.EQ.9) GO TO  51
      DO 48 I=IE,IC
   48 ISUM2=ISUM2+ICOH(I)
      IF(J.EQ.1) PRINT 2036
      IF(J.EQ.2) PRINT 2038
      PRINT 2040,       (ICOH(I),I=IA,IO),ISUM1,(ICOH(I),I=IE,IC),ISUM2
   51 CONTINUE
      IF(J.EQ.1.AND.IB.EQ.9) PRINT 2036
      IF(J.EQ.2.AND.IB.EQ.9) PRINT 2038
      IF(IB.EQ.9) PRINT 2042,       (ICOH(I),I=IA,IO),ISUM1
      IF(J.EQ.1) PRINT 2044, IA,IC
      J=J+1
      IF(J.LE.2) GO TO 50
      PRINT 2002
   60 CONTINUE
      PRINT 2050
      PRINT 2052
```

```
      DO 70 J=1,2
      SK6=0.
      DO 71 I=6,12
   71 SK6=SK6 + PCOH(I,J)
      SJH=0.
      DO 72 I=13,15
   72 SJH=SJH + PCOH(I,J)
      SHS=0.
      DO 73 I=16,17
   73 SHS= SHS + PCOH(I,J)
      SEXIT=0.
      SEXIT=0.25*ACOH(18,J)  + 0.25*ACOH(19,J)
      S65=0.
      DO 74  I=66,86
   74 S65=S65+PCOH(I,J)
      ITALL(J,1)=IFIX(SK6)
      ITALL(J,2)=IFIX(SJH)
      ITALL(J,3)=IFIX(SHS)
      ITALL(J,4)=ITALL(J,1)+ITALL(J,2)+ITALL(J,3)
      ITALL(J,5)=IFIX(SEXIT)
      ITALL(J,6)=IFIX(S65)
      ITALL(J,7)=IFIX(ACOH(86,J))
      ITALL(J,8)=IFIX(PTOT(KC,J))
   70 CONTINUE
      DO 75 K=1,8
   76 ITALL(3,K)=ITALL(1,K)+ITALL(2,K)
      DO 77 I=1,3
      IF(I.EQ.1) PRINT 2060
      IF(I.EQ.2) PRINT 2062
      IF(I.EQ.3) PRINT 2064
      PRINT 2066, (ITALL(I,J),J=1,8)
   77 CONTINUE
      IF(KC.EQ.1) RETURN
C
C
C
C ********* SECOND PAGE ******
C
      PRINT 2000
      PRINT 2010, (AREA(I),I=1,8), IYEAR
      PRINT 2012, (SCENO(I),I=1,8)
      PRINT 2001
      PRINT 2210
      PRINT 2220
      PRINT 2230
      DO 80 K=1,6
      IF(K.EQ.1) PRINT 2240
      IF(K.EQ.1) PRINT 2241,(IOCC(1,J),J=1,6)
      IF(K.EQ.2) PRINT 2242
      IF(K.EQ.2) PRINT 2241,(IOCC(2,J),J=1,6)
      IF(K.EQ.3) PRINT 2244
      IF(K.EQ.3) PRINT 2241,(IOCC(3,J),J=1,6)
      IF(K.EQ.4) PRINT 2246
      IF(K.EQ.4) PRINT 2241,(IOCC(4,J),J=1,6)
      IF(K.EQ.5) PRINT 2248
      IF(K.EQ.5) PRINT 2241,(IOCC(5,J),J=1,6)
      IF(K.EQ.6) PRINT 2249
```

```
      IF(K,EQ,6) PRINT 2241,(IOCC(6,J),J=1,6)
   80 CONTINUE
C
C
C
C
C
 2000 FORMAT (1H1)
 2001 FORMAT (1H )
 2002 FORMAT (1H0)
 2003 FORMAT (1H-)
 2010 FORMAT(1X,   8A10,   *YEAR*,   2X,   I4   )
 2012 FORMAT(10X,8A10)
 2020 FORMAT(1X,*NUMBER OF PER-*)
 2021 FORMAT(01X,*SONS AND YRS*,T44,*POPULATION TALLY BY SEX AND AGE GRO
     1UP (1 YR AND 5 YR AGE COHORTS)*)
 2022 FORMAT(01X,*OLD ON NEXT*)
 2023 FORMAT(01X,*BIRTHDAY AS OF*)
 2030 FORMAT(1H*,10X,5(7A,I2) ,6X,*(5 YR)*,5X,5(I2,7X),*(5 YR)*)
 2034 FORMAT(01X,*  4-30-*,I2)
 2035 FORMAT(10X,1HM)
 2038 FORMAT(10X,1HF)
 2040 FORMAT(1H*,T13,          5I9,   T63,   1H(,   I4,   1H),   5I9,
     1    T119,   1H(,   I4,   1H)   )
 2042 FORMAT(1H*,   T13,   5I9,   T63,   1H(,   I4,   1H)   )
 2044 FORMAT(1X,I2,* - *,I2)
 2050 FORMAT(T13,*SUBTOTALS*,T35,*SCHOOL*,T60,*EXITING*,T80,*AGE 65*,T95
     1,*AGE 85*,T110,*TOTAL*)
 2052 FORMAT(T03,*AND TOTAL*,T27,*K-6*,T34,*7-9*,T41,*10-12*T49,*ALL*,T6
     10,*H.S. GRADS*,T80,*AND ABOVE*,T95,*AND ABOVE*,T110,*POPULATION*)
 2060 FORMAT(5X,*MALES*)
 2062 FORMAT(5X,*FEMALES*)
 2064 FORMAT(1H0,4X,*TOTAL*)
 2066 FORMAT(1H*,T22,4I8,T60,I8,T80,I8,T95,I8,T110,I8)
 2210 FORMAT(44X,*              TALLY BY INDUSTRIAL AFFILIATION*,
     1          */SKILL GROUP*,//)
 2220 FORMAT(T35,*AG*,T52,*AG SERV*,T68,*OTHER*,T85,*NON-LOCAL*,
     1       T104,*ALL*)
 2230 FORMAT(T35,*PROD*,T52,*AG PROC*,T68,*BASIC*,T85,*CONSTRUCT*,
     1       T104,*SECOND*,T120,*TOTAL*,//)
 2240 FORMAT(1X,*PROPRIETORS, MANAGERS*,/,1X,*AND PROFESSIONALS*)
 2241 FORMAT(   1H*,   T23,   6(12X,I5),   //   )
 2242 FORMAT(1X,*CRAFTSMEN AND*,/,1X,*OTHER SKILLED*)
 2244 FORMAT(1X,*SEMI-SKILLED*,/,1X,*AND UNSKILLED*)
 2246 FORMAT(1X,*CLERICAL, SALES AND*,/,1X,*MISC, WHITE COLLAR*)
 2248 FORMAT(1X,*SEASONAL / TRAN-*,/,1X,*SIENT, UNSKILLED*)
 2249 FORMAT(3X,*TOTAL*)
 2250 FORMAT(1H0, 5X,*EMPLOYEES*)
 2252 FORMAT(1H0,5X,*TOTAL FAMILY*,///)
 2260 FORMAT(1X,   *TOTAL* /  1X,   *FAMILY*  /  1X,   *MEMBERS*   )
 2262 FORMAT(   1H*,   T23,   6(12X,I5),   )
      RETURN
      END
```

```
      SUBROUTINE SPRAGUE (X,M5,M1,M8)
      DIMENSION X(M1,2)
      DIMENSION     S(4,5,4),SM(5,5),T(80),TM(25)
      EQUIVALENCE (S,T),(SM,TM)
      DATA (T(I),I=1,80) /
     1     .3616 ,     -.2768 ,      .1483 ,     -.0336 ,
     2     .2640 ,     -.0960 ,      .0400 ,     -.0080 ,
     3     .1840 ,      .0400 ,     -.0320 ,      .0080 ,
     4     .1200 ,      .1360 ,     -.0720 ,      .0160 ,
     5     .0704 ,      .1968 ,     -.0848 ,      .0176 ,
     6     .0336 ,      .2272 ,     -.0752 ,      .0144 ,
     7     .0080 ,      .2320 ,     -.0480 ,      .0080 ,
     8    -.0080 ,      .2160 ,     -.0080 ,      .0000 ,
     9    -.0160 ,      .1840 ,      .0400 ,     -.0080 ,
     0    -.0176 ,      .1408 ,      .0912 ,     -.0144 ,
     *                 -.0144 ,      .0912 ,      .1408 ,     -.0176 ,
     2                 -.0080 ,      .0400 ,      .1840 ,     -.0160 ,
     3                  .0000 ,     -.0080 ,      .2160 ,     -.0080 ,
     4                  .0080 ,     -.0480 ,      .2320 ,      .0080 ,
     5                  .0144 ,     -.0752 ,      .2272 ,      .0336 ,
     6                  .0176 ,     -.0848 ,      .1968 ,      .0704 ,
     7                  .0160 ,     -.0720 ,      .1360 ,      .1200 ,
     8                  .0080 ,     -.0320 ,      .0400 ,      .1840 ,
     9-.0080,.0400,-.0960,.2640,-.0336,.1483,-.2768,.3616/
      DATA (TM(I),I=1,25) /
     1    -.0128 ,      .0848 ,      .1504 ,     -.0240 ,      .0016 ,
     2    -.0016 ,      .0144 ,      .2224 ,     -.0416 ,      .0064 ,
     3     .0064 ,     -.0336 ,      .2544 ,     -.0336 ,      .0064 ,
     4     .0064 ,     -.0416 ,      .2224 ,      .0144 ,     -.0016 ,
     5     .0016 ,     -.0240 ,      .1504 ,      .0848 ,     -.0128 /
      IA=0
   10 IB=M1-IA
      IA=IA+1
      IC=M8+M5-IA
      DO 20 J=1,2
      X(IB,J)=X(IC,J)
   20 X(IC,J)=0.
      IF(IA.LT.M5) GO TO 10
      M8=M8-1
      DO 40 J=1,2
      IC=M8
      DO 40 IA=1,2
      IB=M1-M5+1
      DO 40 I=1,5
      IC=IC+1
      X(IC,J)=S(1,I,IA)*X(IB,J)+S(2,I,IA)*X(IB+1,J)+S(3,I,IA)*X(IB+2,J)
     *+S(4,I,IA)*X(IB+3,J)
   40 CONTINUE
      IB=IB+1
      MC=M5-4
      IF(MC.LE.0) GO TO 45
      IE=IB
      IF=IC
      DO 50 J=1,2
      IB=IE
      IC=IF
      DO 50 IA=1,MC
```

```
                      IB=IB+1
                      IO=IB-2
      60              DO 50 I=1,5
                      IC=IC+1
                   50 X(IC,J)=SM(1,I)*X(IO,J)+SM(2,I)*X(IO+1,J)+SM(3,I)*X(IO+2,J)+
                     *SM(4,I)*X(IO+3,J)+SM(5,I)*X(IO+4,J)
                   45 IB=IB+1
      65              IE=IB
                      IF=IC
                      DO 60 J=1,2
                      IO=IE
                      IC=IF
      70              DO 60 IA=3,4
                      IO=IB-2
                      DO 60 I=1,5
                      IC=IC+1
                   60 X(IC,J)=S(1,I,IA)*X(IO,J)+S(2,I,IA)*X(IO+1,J)+S(3,I,IA)*X(IO+2,J)
      75             *+S(4,I,IA)*X(IO+3,J)
                      RETURN
                      END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS

3 SPRAGUE

VARIABLES	SN	TYPE		RELOCATION					
217	I	INTEGER			213	IA	INTEGER		
214	IB	INTEGER			215	IC	INTEGER		
223	IO	INTEGER			221	IE	INTEGER		
222	IF	INTEGER			216	J	INTEGER		
0	KB	INTEGER		F.P.	220	MC	INTEGER		
0	M1	INTEGER		F.P.	0	N5	INTEGER		F.P.
224	S	REAL	ARRAY		344	SM	REAL	*UNDEF	
224	T	REAL	ARRAY		344	TM	REAL	ARRAY	
0	X	REAL	ARRAY	F.P.					

STATEMENT LABELS

20	10	0	20	0	40
150	45	0	50	0	60

LOOPS	LABEL		INDEX	FROM-TO	LENGTH	PROPERTIES
24	20		J	35 37	38	OPT
46	40	*	J	40 48	358	NOT INNER
50	40	*	IA	42 48	278	NOT INNER
64	40		I	44 48	108	OPT
111	50	*	J	54 62	378	NOT INNER
115	50	*	IA	57 62	308	NOT INNER
130	50		I	61 62	118	OPT
154	60	*	J	67 74	368	NOT INNER
160	60	*	IA	70 74	278	NOT INNER
174	60		I	72 74	108	OPT

```
      1              SUBROUTINE RNDCHK (M)
                     COMMON/B/ACOH(100,2),BCOH(100,2),PCOH(100,2),PTOT(25,2),AREA(8),
                    1         SCENO(8)
                     DIMENSION T(2)
      5              DO 5 I=1,2
                   5 PTOT(M,I)=T(I)=0.
                     DO 10 I=1,86
                     PTOT(M,1)=PTOT(M,1)+ACOH(I,1)
                  10 PTOT(M,2)=PTOT(M,2)+ACOH(I,2)
     10              PTOT(M,1)=RNDR(PTOT(M,1),1.0)
                     PTOT(M,2)=RNDR(PTOT(M,2),1.0)
                     DO 30 J=1,2
                     DO 20 I=1,86
                  20 PCOH(I,J)=RNDR(ACOH(I,J),1.0)
     15              DO 90 J=1,2
                     DO 30 I=1,96
                  30 T(J)=T(J)+PCOH(I,J)
                     S=PTOT(M,J)-T(J)
                     IF(S) 40,90,70
     20           40 I=87
                  50 I=I-1
                     PCOH(I,J)=PCOH(I,J)-1.
                     S=S+1.
                     IF(S) 50,90,50
     25           70 I=0
                  80 I=I+1
                     PCOH(I,J)=PCOH(I,J)+1.
                     S=S-1.
                     IF(S) 80,90,80
     30           90 CONTINUE
                     RETURN
                     END
```

SYMBOLIC REFERENCE MAP (R=1)

ENTRY POINTS
3 RNDCHK

VARIABLES	SN	TYPE		RELOCATION					
0 ACOH		REAL	ARRAY	B	1214	AREA	REAL	ARRAY	B
142 S		REAL			310	BCOH	REAL	ARRAY	B
140 I		INTEGER			141	J	INTEGER		
0 M		INTEGER		F.P.	620	PCOH	REAL	ARRAY	B
1130 PTOT		REAL	ARRAY	B	1224	SCENO	REAL	ARRAY	B
143 T		REAL	ARRAY						

EXTERNALS	TYPE	ARGS
RNDR	REAL	2

STATEMENT LABELS

3	5	0	10			0	20
0	30	0	40	INACTIVE		106	50
116	70	117	80			126	90

```
      FUNCTION RNDR       73/73   OPT=1                    FTN 4.5+410        76/12/03. 10.25.18       PAGE     1

      1                   FUNCTION RNDR (A,B)
                          X=1.0
                          IF(B.EQ.0) GO TO 10
                          IF (A*B.LT.0)  X=-X
            5             A=ABS(A)
                          B=ABS(B)
                          C=AMOD(A,B)/B
                          IF(C.GE.0.45) RNDR=X*AINT(A/B)+X
                          IF(C.LT.0.45) RNDR=X*AINT (A/B)
           10             RETURN
                     10   PRINT 201
                    201   FORMAT (10X,*DIVISION BY ZERO--STOP*)
                          STOP
                          END


          SYMBOLIC REFERENCE MAP (R=1)

   ENTRY POINTS
      4  RNDR

   VARIABLES    SN  TYPE                RELOCATION
        3  A         REAL                F.P.          0  9        REAL                F.P.
       34  C         REAL                             52  RNDR     REAL
       53  X         REAL

   FILE NAMES       MODE
       OUTPUT       FMT

   INLINE FUNCTIONS   TYPE   ARGS
          ABS         REAL      1  INTRIN              AINT      REAL      1  INTRIN
          AMOD        REAL      2  INTRIN

   STATEMENT LABELS
      34  10                                42  201      FMT

   STATISTICS
     PROGRAM LENGTH              558     45
```

APPENDIX C

Empirical Results

Empirical Results

The following pages contain three sets of data. The first are the five-year employment projections (1970-1990) for Umatilla, Morrow, and Gilliam Counties. Total employment is listed for the three scenarios in the five aggregate industry groups for each county.

The second set of data are the three-county region five-year total population projections for 1970 to 1990. Single-year age and sex-cohorts are supplied. At the bottom of each page the population in selected age groups is summarized. The third set of data available are the individual county population projections for 1970 to 1990. The format for the county projections is the same as for the three-county region.

Table 18. Total Employment: 1970-1990 Umatilla, Morrow, and Gilliam Counties, All Scenarios

Year	Counties	Farming[a]			Agricultural Services[b]			Other Basic[c]			Non-Local Construction[d]			Secondary[e]		
		A[f]	B[g]	C[h]	A	B	C	A	B	C	A	B	C	A	B	C
1970	Umatilla	1,350			1,606			1,777			20			8,060		
	Morrow	468			151			93			0			857		
	Gilliam	278			104			30			0			507		
1975	Umatilla	2,989			1,960			2,110			86			9,690		
	Morrow	746			416			229			24			1,640		
	Gilliam	211			94			14			5			504		
1980	Umatilla	3,032	3,241	3,361	2,580	1,804	3,042	2,174	2,174	2,236	109	109	702	10,284	10,360	10,505
	Morrow	779	771	805	470	304	490	339	339	322	66	66	299	1,735	1,610	1,985
	Gilliam	194	174	170	22	14	24	10	10	10	12	12	494	624	630	1,205
1985	Umatilla	3,321	3,639	3,834	2,660	3,000	3,660	2,652	2,981	3,762	135	135	171	10,474	10,581	11,401
	Morrow	784	810	882	390	416	474	354	354	486	62	62	79	1,901	1,905	2,190
	Gilliam	194	174	182	24	24	16	10	10	28	15	15	139	632	634	1,094
1990	Umatilla	3,320	3,661	3,859	2,564	3,074	3,754	2,750	3,094	4,106	104	140	162	10,591	10,755	11,235
	Morrow	779	810	882	372	424	482	368	368	517	45	62	72	1,915	1,924	2,174
	Gilliam	194	174	182	22	24	16	10	10	30	11	15	47	636	640	1,085

a/ Farming: Crop, livestock, and mixed enterprises; includes truck crop, tree crop, and commercial horticultural operations.

b/ Agricultural Services and Agricultural Crops Processing: Agribusiness firms who deal directly with the farming sector, but not ones primarily involved in manufacturing farm equipment.

c/ Other Basic Industry: Lumber and wood products, primary metal reduction, electrical power generation, other manufacturing, etc.

d/ Non-Local Construction: Employees of contract construction firms not headquartered in Morrow or Umatilla Counties but residing in the area while engaged in local construction activities.

e/ Secondary Industry: Trade, transportation, communication, utilities, finance, insurance, real estate, professional services, government, etc.

f/ A: Stanfield/Westland Conservative

g/ B: Stanfield/Westland Project.

h/ C: Stanfield/Westland, Full Project and Industries

Source: For f/, g/, and h/; Unpublished data, "Oregon's Northern Columbia River Basin Irrigation System Development Project: Employment and Sub-Area Distribution, 1960-1990," Oregon State Extension Service. Roger Kraynick (Research Associate).

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1970
STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS ## YRS OLD ON NEXT BIRTHDAY AS OF +-10-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	391	336	409	406	392	(1934)	420	452	508	539	513	(2432)
	F	422	354	397	358	396	(1927)	410	449	513	473	488	(2333)
11 - 20	M	532	508	533	575	569	(2717)	622	591	570	472	424	(2679)
	F	509	523	520	545	544	(2641)	559	589	601	460	372	(2581)
21 - 30	M	332	321	311	302	295	(1561)	289	284	279	276	273	(1401)
	F	382	356	334	317	304	(1693)	294	287	283	280	280	(1424)
31 - 40	M	271	271	269	263	256	(1330)	249	243	242	250	264	(1248)
	F	281	285	287	284	279	(1416)	275	271	272	281	294	(1393)
41 - 50	M	278	292	303	306	305	(1494)	305	305	306	310	316	(1542)
	F	307	320	330	334	334	(1625)	335	335	334	331	326	(1661)
51 - 60	M	321	325	327	327	325	(1625)	322	319	313	304	292	(1550)
	F	320	313	309	307	308	(1557)	307	306	303	295	284	(1495)
61 - 70	M	290	267	254	244	235	(1290)	226	216	206	194	182	(1024)
	F	274	263	252	240	227	(1256)	214	200	190	185	183	(972)
71 - 90	M	170	158	147	140	134	(749)	128	121	114	106	97	(566)
	F	180	173	174	167	157	(856)	148	139	129	119	109	(644)
91 - 95	M	87	75	61	46	28	(297)						
	F	99	89	77	67	57	(388)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3472	1677	1783	6932	260	2823	138	25656
FEMALES	3365	1609	1749	6723	265	3143	234	26145
TOTAL	6837	3286	3532	13655	525	5966	472	51801

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1975
STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	565	556	543	531	516	(2711)	476	470	494	491	477	(2408)
	F	569	560	547	534	519	(2729)	507	439	482	443	481	(2352)
11 - 20	M	505	537	593	624	598	(2857)	617	592	617	493	370	(2689)
	F	495	535	593	559	574	(2761)	594	608	605	472	357	(2636)
21 - 30	M	412	407	403	454	534	(2215)	443	432	422	413	406	(2116)
	F	385	421	446	470	511	(2233)	521	495	474	456	443	(2389)
31 - 40	M	410	395	391	338	385	(1959)	383	392	390	374	365	(1885)
	F	423	426	422	420	419	(2120)	420	424	426	422	417	(2109)
41 - 50	M	360	330	306	291	282	(1569)	271	285	294	297	295	(1442)
	F	413	379	351	331	317	(1791)	303	315	324	328	328	(1598)
51 - 60	M	294	292	292	295	299	(1472)	302	304	305	302	298	(1511)
	F	328	328	326	322	317	(1621)	311	303	298	295	295	(1502)
61 - 70	M	293	284	281	270	257	(1389)	243	229	216	204	194	(1086)
	F	293	292	287	279	267	(1418)	256	245	233	220	207	(1161)
71 - 80	M	193	173	162	150	138	(806)	126	114	104	96	89	(529)
	F	193	179	168	162	159	(960)	153	149	142	133	123	(700)
81 - 85	M	83	75	68	60	53	(339)						
	F	113	102	92	82	72	(461)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3450	1815	1926	7091	277	2977	217	29200
FEMALES	3382	1731	1907	6920	269	3454	273	30713
TOTAL	6832	3546	3833	14011	546	6431	490	59913

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1980
STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS ENT YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	584	596	607	611	612	(3010)	611	601	588	577	562	(2939)
	F	597	600	611	616	616	(3030)	615	606	593	580	566	(2960)
11 - 20	M	522	517	540	538	524	(2641)	551	583	639	501	362	(2635)
	F	554	486	529	490	528	(2587)	542	581	645	454	350	(2572)
21 - 30	M	372	357	378	417	425	(1949)	467	462	463	509	588	(2489)
	F	367	380	386	412	425	(1970)	453	489	514	538	579	(2573)
31 - 40	M	438	487	477	469	461	(2392)	455	450	446	442	438	(2231)
	F	589	563	541	524	510	(2727)	500	493	489	486	485	(2453)
41 - 50	M	436	431	426	408	377	(2078)	351	321	297	282	272	(1523)
	F	486	480	473	457	433	(2329)	407	373	345	325	311	(1761)
51 - 60	M	261	273	281	283	280	(1378)	277	274	272	273	275	(1371)
	F	296	309	316	319	318	(1557)	318	317	314	310	304	(1563)
61 - 70	M	276	275	273	268	262	(1354)	255	248	238	226	212	(1179)
	F	297	299	282	279	278	(1425)	275	272	266	256	243	(1312)
71 - 80	M	198	183	170	158	147	(856)	136	125	114	103	92	(570)
	F	231	219	206	192	178	(1026)	164	150	139	129	122	(704)
81 - 85	M	80	78	61	54	49	(314)						
	F	116	109	101	92	81	(499)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3978	1602	1772	7352	284	3171	252	31161
FEMALES	4000	1547	1768	7315	274	3801	260	33308
TOTAL	7978	3149	3540	14667	558	6972	512	64469

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1985
STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	542	554	569	582	597	(2844)	611	622	633	633	639	(3143)
	F	545	559	572	585	600	(2860)	614	627	638	643	644	(3166)
11 - 20	M	638	629	616	605	590	(3078)	550	544	567	423	313	(2394)
	F	643	634	621	609	594	(3101)	582	514	557	389	314	(2355)
21 - 30	M	326	344	374	389	373	(1806)	383	368	389	423	436	(2004)
	F	326	351	391	372	386	(1826)	403	415	422	447	461	(2148)
31 - 40	M	477	472	473	518	597	(2537)	508	496	486	477	470	(2437)
	F	488	524	548	572	613	(2745)	622	596	574	557	543	(2892)
41 - 50	M	463	453	445	438	431	(2230)	425	420	414	395	364	(2018)
	F	533	517	506	496	487	(2539)	479	473	465	449	424	(2290)
51 - 60	M	338	309	284	268	258	(1456)	246	256	262	261	257	(1282)
	F	399	365	336	317	302	(1719)	287	298	305	307	305	(1502)
61 - 70	M	252	247	244	242	242	(1227)	240	236	231	225	216	(1149)
	F	304	302	298	293	286	(1493)	278	269	261	256	253	(1317)
71 - 80	M	207	199	187	175	161	(929)	147	133	120	109	93	(607)
	F	248	243	235	224	210	(1160)	196	183	168	153	135	(835)
81 - 95	M	88	77	68	58	50	(341)						
	F	124	110	98	89	81	(502)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4410	1811	1661	7882	247	3308	285	31764
FEMALES	4443	1824	1653	7920	236	4063	247	34690
TOTAL	8853	3635	3314	15802	483	7371	532	66454

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1990
STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS #N# YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90 — POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)

		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	510	519	529	539	551	(2648)	562	573	588	601	617	(2941)
	F	512	522	532	542	554	(2662)	565	578	592	605	621	(2961)
11 - 20	M	631	643	654	659	660	(3247)	658	648	635	467	342	(2750)
	F	635	648	659	664	665	(3271)	663	654	642	472	346	(2777)
21 - 30	M	319	316	329	327	320	(1611)	336	353	382	393	343	(1832)
	F	340	304	330	312	337	(1623)	349	374	413	395	408	(1939)
31 - 40	M	392	377	393	436	444	(2047)	484	479	480	524	601	(2568)
	F	425	438	444	469	482	(2258)	510	544	568	592	632	(2846)
41 - 50	M	513	499	485	474	463	(2435)	452	441	432	424	417	(2165)
	F	641	611	585	562	543	(2942)	525	509	497	487	478	(2496)
51 - 60	M	410	403	396	376	345	(1930)	319	299	264	243	237	(1357)
	F	469	462	453	437	412	(2233)	387	353	324	304	293	(1653)
61 - 70	M	224	231	235	232	226	(1148)	219	213	207	203	199	(1041)
	F	275	284	290	290	287	(1426)	284	281	276	269	260	(1370)
71 - 80	M	195	199	182	174	164	(904)	154	144	132	120	108	(656)
	F	251	240	231	224	218	(1164)	211	203	192	179	163	(948)
81 - 85	M	94	82	71	62	53	(362)						
	F	149	134	120	106	92	(601)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4215	1973	1941	8129	275	3282	320	31982
FEMALES	4244	1988	1959	8191	278	4315	233	35407
TOTAL	8459	3961	3900	16320	553	7597	553	67389

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1970
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70 — POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)

		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	391	386	409	406	392	(1984)	420	452	508	539	513	(2432)
	F	422	354	397	358	396	(1927)	410	449	513	473	488	(2333)
11 - 20	M	532	508	533	575	569	(2717)	622	591	570	472	424	(2679)
	F	509	527	520	545	544	(2641)	559	589	601	460	372	(2581)
21 - 30	M	332	321	311	302	295	(1561)	289	284	279	276	273	(1401)
	F	382	356	334	317	304	(1693)	294	287	283	280	280	(1424)
31 - 40	M	271	271	269	263	256	(1330)	249	243	242	250	264	(1248)
	F	281	285	287	284	279	(1416)	275	271	272	281	294	(1353)
41 - 50	M	278	292	303	306	305	(1484)	305	305	306	310	316	(1542)
	F	307	320	331	334	334	(1625)	325	335	334	331	326	(1651)
51 - 60	M	321	325	327	327	325	(1625)	322	319	313	304	292	(1552)
	F	320	313	309	307	308	(1557)	307	306	303	295	284	(1455)
61 - 70	M	280	267	254	244	235	(1280)	226	216	206	194	182	(1024)
	F	274	263	252	240	227	(1256)	214	200	190	185	183	(972)
71 - 80	M	170	159	147	140	134	(749)	128	121	114	106	97	(565)
	F	180	178	174	167	157	(856)	148	139	129	119	109	(644)
81 - 95	M	87	75	61	46	28	(297)						
	F	99	98	77	67	57	(338)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3472	1677	1783	6932	260	2823	138	25656
FEMALES	3365	1609	1749	6723	265	3143	234	26145
TOTAL	6837	3286	3532	13655	525	5966	472	51801

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1975
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	565	555	543	530	515	(2708)	475	469	493	430	476	(2403)
	F	567	553	545	532	517	(2719)	506	438	481	443	481	(2349)
11 - 20	M	504	536	593	623	597	(2853)	616	591	616	493	369	(2685)
	F	495	534	593	558	573	(2753)	594	607	604	472	356	(2633)
21 - 30	M	411	406	407	453	533	(2210)	442	430	420	412	405	(2109)
	F	384	420	445	469	510	(2228)	520	493	472	455	441	(2381)
31 - 40	M	388	394	390	396	383	(1952)	381	381	379	372	365	(1877)
	F	431	425	420	418	417	(2111)	419	422	424	421	415	(2101)
41 - 50	M	358	329	304	239	280	(1559)	271	295	294	297	295	(1442)
	F	411	377	349	330	316	(1783)	303	315	324	328	329	(1593)
51 - 60	M	294	292	292	295	299	(1472)	302	304	305	302	298	(1511)
	F	328	328	326	322	317	(1621)	311	303	298	295	295	(1502)
61 - 70	M	293	288	281	270	257	(1389)	243	229	216	204	194	(1086)
	F	293	292	287	279	267	(1419)	256	245	233	220	207	(1161)
71 - 80	M	183	173	162	150	138	(806)	126	114	104	96	89	(529)
	F	193	179	169	162	158	(860)	153	149	141	132	122	(697)
81 - 95	M	83	75	68	61	54	(341)						
	F	112	102	92	82	72	(460)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3443	1813	1823	7079	277	2980	217	29150
FEMALES	3378	1729	1805	6912	268	3450	273	30652
TOTAL	6821	3542	3628	13991	545	6430	490	59802

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1980
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	578	597	605	610	610	(3000)	608	598	586	574	560	(2926)
	F	582	601	610	614	614	(3021)	612	602	590	577	562	(2943)
11 - 20	M	520	515	538	535	521	(2629)	549	581	636	530	360	(2526)
	F	551	484	527	488	526	(2576)	540	579	643	452	348	(2562)
21 - 30	M	364	350	373	414	422	(1923)	463	459	450	505	584	(2471)
	F	359	373	381	408	422	(1943)	449	485	509	533	574	(2550)
31 - 40	M	494	483	473	465	457	(2372)	451	446	442	438	434	(2211)
	F	584	557	535	519	505	(2701)	495	488	483	481	480	(2427)
41 - 50	M	432	436	429	409	376	(2082)	350	320	296	280	271	(1517)
	F	481	484	475	457	432	(2329)	406	372	343	324	310	(1755)
51 - 60	M	261	273	281	283	280	(1378)	277	274	272	273	275	(1371)
	F	296	308	315	319	318	(1557)	318	317	314	310	304	(1563)
61 - 70	M	276	275	273	268	262	(1354)	255	248	238	226	212	(1179)
	F	297	289	282	279	278	(1425)	275	272	266	256	243	(1312)
71 - 80	M	198	183	173	158	147	(856)	136	125	114	103	92	(570)
	F	231	219	206	192	178	(1026)	164	150	138	129	123	(704)
81 - 45	M	81	71	62	54	49	(317)						
	F	116	109	101	92	81	(499)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3961	1594	1766	7321	283	3174	252	31034
FEMALES	3978	1541	1762	7281	273	3801	260	33153
TOTAL	7939	3135	3528	14602	556	6975	512	64187

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1985
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	551	563	577	588	599	(2873)	612	630	639	644	645	(3170)
	F	554	566	580	591	603	(2894)	616	635	645	649	649	(3194)
11 - 20	M	643	633	621	609	595	(3101)	555	549	572	426	313	(2415)
	F	647	638	625	612	598	(3120)	587	519	562	392	317	(2377)
21 - 30	M	331	350	383	403	387	(1854)	390	377	399	439	448	(2053)
	F	336	357	399	384	397	(1367)	408	422	430	456	470	(2186)
31 - 40	M	439	484	485	530	608	(2596)	519	507	497	489	481	(2493)
	F	498	533	557	581	621	(2790)	630	604	582	565	551	(2932)
41 - 50	M	474	462	452	440	428	(2256)	422	425	417	396	363	(2023)
	F	541	524	510	497	483	(2555)	474	477	467	449	424	(2291)
51 - 60	M	337	307	283	267	257	(1451)	246	256	262	261	257	(1282)
	F	397	363	335	315	301	(1711)	287	298	305	307	305	(1502)
61 - 70	M	252	247	244	242	242	(1227)	240	236	231	225	216	(1148)
	F	304	302	298	293	286	(1483)	278	269	261	256	253	(1317)
71 - 80	M	207	198	187	175	161	(928)	147	133	120	109	98	(607)
	F	248	243	235	224	210	(1160)	196	183	168	153	138	(838)
81 - 85	M	88	77	68	58	50	(341)						
	F	124	110	98	89	81	(502)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4446	1825	1676	7947	249	3303	285	32107
FEMALES	4479	1835	1668	7982	238	4063	247	34965
TOTAL	8925	3660	3344	15929	487	7371	532	67072

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1990
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS #N# YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	521	530	541	551	563	(2706)	574	585	599	610	622	(2990)
	F	525	534	545	554	566	(2724)	577	589	603	614	627	(3010)
11 - 20	M	635	654	663	668	668	(3288)	666	655	643	473	347	(2784)
	F	640	658	669	673	672	(3313)	670	661	649	477	350	(2807)
21 - 30	M	325	324	338	337	331	(1655)	349	368	431	421	404	(1943)
	F	346	310	337	319	345	(1657)	358	385	426	411	424	(2004)
31 - 40	M	408	395	417	457	465	(2142)	505	500	501	545	621	(2672)
	F	436	450	457	483	497	(2323)	524	559	582	606	645	(2916)
41 - 50	M	533	517	502	499	476	(2517)	463	450	439	427	413	(2192)
	F	654	623	596	573	552	(2998)	533	516	502	488	474	(2513)
51 - 60	M	406	404	399	377	344	(1934)	317	287	263	247	236	(1350)
	F	464	466	455	437	412	(2234)	385	351	323	303	289	(1651)
61 - 70	M	224	231	235	232	226	(1148)	219	213	207	203	199	(1041)
	F	275	284	290	290	287	(1426)	284	281	276	269	260	(1370)
71 - 80	M	195	189	182	174	164	(904)	154	144	132	120	107	(657)
	F	251	240	231	224	218	(1164)	211	203	192	179	164	(949)
81 - 85	M	95	82	71	62	53	(363)						
	F	150	134	120	106	92	(602)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4279	1999	1964	8242	278	3284	320	32605
FEMALES	4309	2014	1980	8303	281	4317	233	35893
TOTAL	8588	4013	3944	16545	559	7601	553	68498

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1970
STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-1-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	391	385	409	406	392	(1984)	420	452	503	539	513	(2432)
	F	422	354	397	358	396	(1927)	410	449	513	473	488	(2333)
11 - 20	M	532	503	533	575	569	(2717)	622	591	570	472	424	(2679)
	F	509	523	520	545	544	(2641)	559	589	601	460	372	(2581)
21 - 30	M	332	321	311	302	295	(1561)	289	284	279	276	273	(1401)
	F	342	356	334	317	304	(1693)	294	287	283	280	280	(1424)
31 - 40	M	271	271	269	263	256	(1333)	249	243	242	250	264	(1248)
	F	231	285	287	284	279	(1416)	275	271	272	231	294	(1393)
41 - 50	M	278	292	303	306	305	(1484)	305	305	306	310	316	(1542)
	F	307	320	330	334	334	(1625)	335	335	334	331	325	(1661)
51 - 60	M	321	325	327	327	325	(1625)	322	319	313	304	292	(1550)
	F	320	313	309	307	308	(1557)	307	306	303	295	284	(1495)
61 - 70	M	280	267	254	244	235	(1280)	226	216	206	194	182	(1024)
	F	274	263	252	240	227	(1256)	214	210	190	185	183	(972)
71 - 80	M	170	159	147	140	134	(749)	128	121	114	105	97	(566)
	F	130	178	174	167	157	(856)	148	139	129	119	109	(644)
81 - 85	M	87	75	61	46	28	(297)						
	F	99	88	77	67	57	(388)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3472	1677	1783	6932	260	2823	148	25655
FEMALES	3365	1609	1749	6723	265	3143	284	26145
TOTAL	6837	3286	3532	13655	525	5966	472	51801

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1975
STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	563	554	542	528	514	(2701)	474	469	492	493	476	(2404)
	F	566	557	544	532	517	(2716)	506	439	481	442	480	(2347)
11 - 20	M	504	535	592	623	597	(2852)	616	591	615	492	369	(2583)
	F	494	533	597	557	572	(2753)	593	607	604	471	356	(2631)
21 - 30	M	411	405	407	453	532	(2209)	441	430	420	411	404	(2106)
	F	384	420	444	468	509	(2225)	519	493	471	454	441	(2378)
31 - 40	M	398	393	389	386	382	(1948)	380	380	378	372	364	(1974)
	F	431	424	419	417	416	(2107)	418	422	423	420	415	(2098)
41 - 50	M	358	328	304	289	280	(1559)	271	285	294	297	295	(1442)
	F	410	375	349	329	316	(1780)	303	315	324	328	328	(1598)
51 - 60	M	234	292	292	285	299	(1472)	302	304	305	302	298	(1511)
	F	328	328	326	322	317	(1621)	311	303	298	295	295	(1502)
61 - 70	M	233	288	281	270	257	(1389)	243	229	216	234	194	(1085)
	F	293	292	287	279	267	(1418)	256	245	233	220	207	(1161)
71 - 80	M	183	173	162	150	138	(806)	126	114	104	96	89	(529)
	F	193	179	168	162	158	(860)	153	149	142	133	123	(700)
81 - 85	M	83	75	68	61	54	(341)						
	F	113	102	92	82	72	(461)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3441	1812	1922	7075	276	2990	217	29127
FEMALES	3374	1726	1904	6904	268	3454	273	30628
TOTAL	6815	3538	3826	13979	544	6434	490	59755

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1990
STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS ENR YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	591	603	613	616	615	(3038)	613	603	592	579	564	(2951)
	F	594	607	616	620	620	(3057)	616	607	594	582	569	(2967)
11 - 20	M	525	520	544	541	527	(2657)	555	586	641	504	364	(2650)
	F	557	489	532	494	532	(2604)	546	584	648	456	352	(2586)
21 - 30	M	393	398	433	473	483	(2180)	524	519	520	566	644	(2773)
	F	369	383	392	419	433	(1996)	461	496	521	545	585	(2608)
31 - 40	M	555	543	533	525	517	(2673)	511	506	502	498	494	(2511)
	F	595	569	547	530	516	(2757)	506	499	495	492	491	(2483)
41 - 50	M	492	468	443	410	377	(2190)	349	319	295	280	271	(1514)
	F	492	485	477	458	432	(2344)	405	371	343	323	310	(1752)
51 - 60	M	261	273	281	283	280	(1378)	277	274	272	273	275	(1371)
	F	296	309	316	319	318	(1557)	318	317	314	310	304	(1563)
61 - 70	M	276	275	273	268	262	(1354)	255	248	238	225	212	(1179)
	F	297	289	282	279	278	(1425)	275	272	266	256	243	(1312)
71 - 80	M	198	183	173	158	147	(856)	136	125	114	103	92	(570)
	F	231	219	206	192	178	(1026)	164	150	138	129	123	(704)
81 - 85	M	80	70	61	54	49	(314)						
	F	117	110	102	92	81	(502)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3996	1612	1782	7390	286	3171	252	32411
FEMALES	4013	1558	1778	7349	275	3804	260	33503
TOTAL	8009	3170	3560	14739	561	6975	512	65914

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1985
STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS #N# YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	538	551	565	578	593	(2825)	608	619	629	633	633	(3122)
	F	542	555	564	580	597	(2842)	611	624	633	637	637	(3142)
11 - 20	M	630	621	610	587	582	(3040)	543	537	560	417	306	(2363)
	F	634	625	612	601	586	(3058)	575	507	550	383	309	(2324)
21 - 30	M	321	339	371	396	397	(1824)	425	430	465	506	515	(2341)
	F	321	347	387	367	380	(1802)	398	412	420	447	462	(2139)
31 - 40	M	606	551	552	597	674	(2930)	585	574	564	555	547	(2825)
	F	489	524	549	572	612	(2746)	622	595	573	556	542	(2888)
41 - 50	M	540	532	524	516	503	(2615)	480	456	431	397	364	(2128)
	F	532	518	507	498	492	(2547)	485	478	469	450	424	(2306)
51 - 60	M	335	306	282	267	256	(1447)	246	256	262	261	257	(1232)
	F	396	362	334	315	301	(1708)	287	298	305	307	305	(1502)
61 - 70	M	252	247	244	242	242	(1227)	240	236	231	225	216	(1148)
	F	304	302	298	293	286	(1483)	278	269	261	256	253	(1317)
71 - 80	M	207	198	187	175	161	(928)	147	133	120	109	97	(606)
	F	248	243	235	224	210	(1160)	196	183	169	154	139	(841)
81 - 85	M	87	77	68	58	50	(340)						
	F	125	111	99	90	82	(507)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4373	1789	1640	7802	244	3306	285	33275
FEMALES	4401	1799	1632	7832	233	4071	247	34558
TOTAL	8774	3588	3272	15634	477	7377	532	67833

THREE COUNTY REGION (UMATILLA, MORROW, GILLIAM COUNTIES) YEAR 1990
STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	499	509	517	528	538	(2590)	549	561	575	589	604	(2878)
	F	502	511	521	531	542	(2607)	553	566	579	591	609	(2898)
11 - 20	M	619	631	642	645	644	(3181)	642	632	620	456	333	(2682)
	F	623	636	646	650	650	(3205)	646	637	624	459	336	(2702)
21 - 30	M	314	309	321	320	312	(1572)	327	345	377	401	403	(1853)
	F	331	296	322	304	329	(1582)	341	367	406	386	399	(1899)
31 - 40	M	31	436	470	510	519	(2366)	560	554	555	599	675	(2943)
	F	417	431	439	466	480	(2233)	507	542	565	538	628	(2933)
41 - 50	M	536	574	559	549	537	(2805)	527	519	509	500	465	(2540)
	F	636	608	582	561	540	(2927)	525	510	499	489	483	(2506)
51 - 60	M	462	438	412	378	345	(2035)	317	287	253	247	235	(1349)
	F	475	467	453	438	412	(2250)	384	351	323	303	289	(1650)
61 - 70	M	224	231	235	232	226	(1148)	219	213	207	203	199	(1041)
	F	275	284	290	290	287	(1426)	284	281	276	269	260	(1370)
71 - 80	M	195	189	182	174	164	(904)	154	144	132	120	107	(657)
	F	251	240	231	224	218	(1164)	211	203	192	179	163	(948)
81 - 95	M	94	82	71	62	53	(362)						
	F	149	134	120	106	92	(601)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4128	1931	1394	7953	268	3283	320	33225
FEMALES	4157	1946	1907	9010	270	4315	233	35030
TOTAL	8285	3877	3301	15963	538	7598	553	68255

UMATILLA COUNTY — YEAR 1970

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AGE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	339	336	353	345	333	(1711)	369	392	400	467	443	(2069)
	F	381	321	341	314	353	(1710)	348	385	446	406	417	(2032)
11 - 20	M	456	439	452	534	486	(2336)	541	501	439	421	367	(2319)
	F	443	443	448	447	476	(2254)	478	510	516	411	345	(2260)
21 - 30	M	280	276	272	267	263	(1353)	258	254	249	244	240	(1245)
	F	352	325	302	234	270	(1533)	260	252	247	245	244	(1248)
31 - 40	M	230	233	229	224	218	(1140)	212	207	206	214	227	(1066)
	F	245	249	250	247	241	(1232)	237	232	233	241	254	(1197)
41 - 50	M	240	254	264	267	266	(1291)	265	264	265	270	276	(1340)
	F	265	273	287	291	292	(1413)	293	294	293	291	283	(1459)
51 - 60	M	291	285	287	286	282	(1421)	278	273	267	258	248	(1324)
	F	284	279	275	272	270	(1380)	267	264	259	253	245	(1288)
61 - 70	M	235	226	216	209	203	(1092)	196	190	182	171	158	(897)
	F	238	230	221	210	199	(1098)	187	174	165	160	158	(844)
71 - 80	M	146	133	123	117	114	(633)	109	104	99	92	85	(489)
	F	156	154	151	144	136	(741)	127	119	111	102	93	(552)
81 - 85	M	77	67	54	39	23	(260)						
	F	84	74	65	55	46	(324)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	2962	1442	1531	5935	227	2433	155	22144
FEMALES	2885	1371	1504	5760	231	2705	244	22779
TOTAL	5847	2813	3035	11695	458	5138	399	44923

UMATILLA COUNTY
STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

YEAR 1975

POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)

NUMBER OF PERSONS ARE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	449	454	461	454	440	(2253)	394	392	415	421	389	(1931)
	F	452	457	462	456	442	(2269)	436	377	397	371	410	(1991)
11 - 20	M	425	449	457	524	497	(2352)	512	494	507	419	305	(2237)
	F	405	442	503	453	474	(2237)	497	500	504	377	301	(2179)
21 - 30	M	335	309	311	356	429	(1750)	343	339	335	331	326	(1674)
	F	303	323	336	371	422	(1752)	429	402	380	352	348	(1921)
31 - 40	M	322	317	313	308	304	(1564)	300	296	292	287	280	(1455)
	F	337	330	325	322	321	(1635)	322	325	326	323	317	(1613)
41 - 50	M	275	265	267	259	248	(1314)	234	247	256	259	257	(1253)
	F	313	302	303	291	278	(1487)	262	274	282	286	286	(1330)
51 - 60	M	255	254	253	257	261	(1280)	265	267	267	264	259	(1322)
	F	287	287	285	284	280	(1424)	276	270	265	262	259	(1332)
61 - 70	M	252	247	239	229	218	(1186)	207	195	184	175	167	(928)
	F	255	251	246	239	231	(1222)	222	214	205	193	181	(1315)
71 - 80	M	139	152	143	132	120	(706)	108	97	87	80	76	(448)
	F	169	156	146	140	137	(748)	133	129	123	115	106	(606)
81 - 85	M	69	64	58	52	46	(289)						
	F	97	88	79	70	61	(395)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	2805	1478	1513	5856	231	2551	150	24187
FEMALES	2838	1440	1501	5779	220	2998	265	25530
TOTAL	5733	2918	3014	11635	451	5549	415	49667

UMATILLA COUNTY — YEAR 1980

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS WHO WILL BE THIS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	466	469	475	477	481	(2362)	485	489	497	490	476	(2437)
	F	463	472	477	479	482	(2373)	488	493	498	492	479	(2450)
11 - 20	M	430	428	452	438	426	(2174)	462	484	492	418	300	(2156)
	F	473	414	434	437	446	(2174)	441	478	539	374	285	(2117)
21 - 30	M	310	300	315	355	348	(1628)	378	352	354	409	471	(1963)
	F	305	311	320	324	342	(1602)	345	362	377	412	463	(1959)
31 - 40	M	386	382	378	374	369	(1939)	364	360	355	350	345	(1774)
	F	470	443	421	402	388	(2124)	378	370	365	362	361	(1836)
41 - 50	M	341	332	323	305	282	(1583)	269	258	259	250	239	(1274)
	F	361	356	349	335	319	(1720)	308	298	298	286	272	(1462)
51 - 60	M	226	237	245	246	243	(1197)	241	238	236	237	240	(1192)
	F	256	267	275	279	278	(1355)	278	278	276	273	269	(1374)
61 - 70	M	241	241	239	235	227	(1183)	220	212	203	192	180	(1007)
	F	263	257	252	247	244	(1263)	239	234	227	219	210	(1129)
71 - 80	M	168	156	145	135	127	(731)	118	110	101	91	80	(500)
	F	201	192	181	169	156	(899)	143	130	119	112	107	(611)
81 - 85	M	70	60	51	45	41	(267)						
	F	101	95	89	80	71	(436)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3295	1316	1433	6043	227	2715	211	25527
FEMALES	3337	1287	1463	6082	228	3299	224	27111
TOTAL	6632	2603	2896	12131	455	6014	435	52638

UMATILLA COUNTY — YEAR 1985

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS ONE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	451	457	466	473	483	(2330)	494	502	509	511	515	(2531)
	F	457	460	468	475	486	(2342)	496	505	511	514	517	(2543)
11 - 20	M	519	524	531	524	510	(2608)	465	462	435	353	260	(2025)
	F	522	527	533	527	513	(2622)	507	449	459	331	272	(2028)
21 - 30	M	296	302	310	347	332	(1577)	342	333	347	387	380	(1789)
	F	276	300	338	319	328	(1561)	345	351	360	364	382	(1802)
31 - 40	M	393	384	386	440	502	(2121)	417	413	409	404	399	(2042)
	F	384	401	417	451	502	(2155)	509	481	459	440	426	(2315)
41 - 50	M	394	376	364	351	342	(1827)	333	323	314	295	272	(1538)
	F	415	394	382	370	363	(1924)	356	351	344	329	313	(1693)
51 - 60	M	253	248	243	238	227	(1219)	213	222	228	229	223	(1114)
	F	302	291	291	279	265	(1428)	248	259	266	268	267	(1308)
61 - 70	M	219	215	211	211	211	(1067)	210	207	203	196	188	(1004)
	F	266	265	262	258	253	(1304)	247	239	233	227	222	(1168)
71 - 80	M	179	170	159	148	137	(793)	125	113	102	93	83	(516)
	F	216	209	201	192	181	(999)	171	160	148	135	122	(736)
81 - 85	M	75	67	59	51	43	(295)						
	F	108	95	85	77	70	(435)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3574	1565	1412	6551	209	2846	235	26634
FEMALES	3592	1573	1425	6590	200	3550	212	28575
TOTAL	7166	3138	2837	13141	409	6396	450	55209

UMATILLA COUNTY — YEAR 1980

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-31-80

POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)

		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	439	448	456	465	472	(2290)	478	484	493	500	511	(2466)
	F	443	451	461	456	474	(2295)	481	487	496	503	514	(2481)
11 - 20	M	522	531	537	539	543	(2672)	547	551	559	413	302	(2371)
	F	524	533	540	542	545	(2684)	551	556	561	416	305	(2389)
21 - 30	M	277	277	292	287	286	(1419)	312	327	335	372	357	(1703)
	F	302	270	284	273	300	(1429)	304	328	366	346	355	(1699)
31 - 40	M	367	358	372	412	405	(1914)	433	408	410	462	523	(2236)
	F	372	378	386	390	408	(1934)	410	427	442	476	526	(2281)
41 - 50	M	440	432	423	412	400	(2107)	385	366	354	340	339	(1775)
	F	532	502	476	451	430	(2391)	410	389	376	364	356	(1895)
51 - 60	M	321	310	303	291	258	(1470)	244	232	231	221	208	(1136)
	F	340	343	335	320	304	(1651)	293	281	280	268	254	(1376)
61 - 70	M	194	201	204	202	196	(997)	191	185	179	176	174	(905)
	F	237	246	252	253	251	(1239)	243	246	242	237	231	(1204)
71 - 80	M	170	166	160	152	142	(790)	133	123	113	102	91	(562)
	F	223	214	206	199	191	(1033)	183	174	165	154	142	(818)
81 - 85	M	79	69	60	52	46	(306)						
	F	129	117	105	93	81	(525)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3519	1619	1656	6794	242	2831	269	27377
FEMALES	3538	1627	1668	6833	244	3780	200	29524
TOTAL	7057	3246	3324	13627	486	6611	469	56901

UMATILLA COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1973

NUMBER OF PERSONS WHO WILL BE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-73		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	338	336	359	345	333	(1711)	369	392	409	467	440	(2083)
	F	381	321	341	314	353	(1710)	348	385	446	406	417	(2002)
11 - 20	M	456	438	452	504	486	(2336)	541	501	489	421	367	(2319)
	F	440	443	443	447	476	(2254)	478	510	516	411	345	(2260)
21 - 30	M	280	275	272	267	263	(1358)	255	254	249	244	243	(1245)
	F	352	325	302	284	270	(1533)	260	252	247	245	244	(1248)
31 - 40	M	236	233	229	224	218	(1140)	212	207	206	214	227	(1066)
	F	245	249	250	247	241	(1232)	237	232	233	241	254	(1197)
41 - 50	M	240	254	264	257	266	(1281)	265	264	255	270	276	(1330)
	F	265	278	287	291	292	(1413)	293	294	293	291	288	(1459)
51 - 60	M	281	285	287	296	282	(1421)	278	273	267	258	248	(1324)
	F	284	279	275	272	270	(1380)	267	264	259	253	245	(1288)
61 - 70	M	238	226	216	209	203	(1092)	196	190	182	171	158	(897)
	F	238	230	221	210	199	(1098)	187	174	165	160	158	(844)
71 - 80	M	146	133	123	117	114	(633)	109	104	99	92	85	(489)
	F	156	154	151	144	136	(741)	127	119	111	102	93	(552)
81 - 90	M	77	67	54	39	23	(260)						
	F	84	74	65	55	46	(324)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	2962	1442	1531	5935	227	2433	155	22144
FEMALES	2885	1371	1584	5760	231	2705	244	22779
TOTAL	5847	2813	3035	11695	458	5138	399	44923

UMATILLA COUNTY — YEAR 1975

STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	449	453	460	453	440	(2255)	394	392	415	401	389	(1991)
	F	452	457	462	456	442	(2269)	436	377	397	371	410	(1991)
11 - 20	M	425	449	457	524	496	(2351)	512	494	507	419	305	(2237)
	F	405	442	503	453	474	(2287)	497	500	504	377	301	(2179)
21 - 30	M	335	309	312	356	429	(1751)	343	339	335	331	326	(1674)
	F	303	320	336	371	422	(1752)	429	402	380	362	347	(1920)
31 - 40	M	322	317	313	308	303	(1563)	299	296	292	287	280	(1454)
	F	337	329	325	322	321	(1634)	322	325	326	323	317	(1613)
41 - 50	M	275	265	267	258	247	(1312)	234	247	256	259	257	(1253)
	F	313	302	302	291	277	(1485)	262	274	282	236	286	(1390)
51 - 60	M	255	254	253	257	261	(1280)	265	267	267	264	259	(1322)
	F	287	287	286	284	280	(1424)	276	270	265	262	259	(1332)
61 - 70	M	253	247	239	229	218	(1186)	207	195	184	175	167	(928)
	F	255	251	245	239	231	(1222)	222	214	205	193	181	(1015)
71 - 80	M	159	152	143	132	120	(706)	108	97	87	80	75	(448)
	F	169	156	146	140	137	(748)	133	129	123	115	105	(605)
81 - 85	M	70	64	58	52	46	(290)						
	F	96	87	79	70	61	(393)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	2865	1477	1513	5855	231	2552	180	24181
FEMALES	2838	1440	1501	5779	220	2996	235	25494
TOTAL	5703	2917	3014	11634	451	5548	415	49675

UMATILLA COUNTY — YEAR 1980

STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	460	476	480	478	482	(2376)	486	489	497	490	477	(2439)
	F	467	479	483	481	484	(2390)	489	494	520	496	479	(2455)
11 - 20	M	431	429	453	439	427	(2179)	463	485	493	419	299	(2159)
	F	474	415	435	409	448	(2181)	443	479	540	375	288	(2125)
21 - 30	M	304	293	315	357	351	(1626)	380	355	357	411	474	(1977)
	F	299	308	320	325	344	(1596)	346	363	379	414	465	(1967)
31 - 40	M	389	385	381	376	372	(1903)	367	362	358	353	348	(1788)
	F	472	444	422	404	390	(2132)	379	371	366	363	362	(1841)
41 - 50	M	346	344	330	307	282	(1607)	269	253	259	250	239	(1274)
	F	367	367	356	336	320	(1742)	309	297	288	286	272	(1461)
51 - 60	M	226	237	245	246	243	(1197)	241	238	236	237	240	(1192)
	F	256	267	275	279	278	(1355)	278	278	276	273	269	(1374)
61 - 70	M	241	241	239	235	227	(1183)	220	212	203	192	180	(1307)
	F	253	257	252	247	244	(1263)	239	234	227	219	210	(1129)
71 - 80	M	168	156	145	135	127	(731)	118	110	101	91	80	(500)
	F	201	192	181	169	156	(899)	143	130	119	112	107	(611)
81 - 85	M	70	59	51	45	41	(266)						
	F	101	95	89	79	70	(434)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3299	1319	1441	6059	223	2714	211	25614
FEMALES	3345	1292	1462	6099	223	3296	224	27179
TOTAL	6644	2611	2903	12158	456	6010	435	52793

UMATILLA COUNTY
STANFIELD-HESTLAND, PROJECT UNDERTAKEN

YEAR 1985

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	478	490	488	492	500	(2438)	507	523	527	526	530	(2613)
	F	460	482	490	494	502	(2443)	511	525	531	529	532	(2628)
11 - 20	M	534	538	545	538	526	(2681)	479	477	500	364	269	(2089)
	F	537	542	543	542	528	(2697)	522	463	483	342	281	(2091)
21 - 30	M	301	319	332	373	359	(1684)	363	358	375	416	410	(1922)
	F	290	317	359	343	353	(1662)	365	374	385	330	409	(1923)
31 - 40	M	439	414	417	470	531	(2271)	447	443	438	434	429	(2191)
	F	411	423	444	478	528	(2284)	535	508	485	467	453	(2448)
41 - 50	M	424	398	382	362	346	(1912)	335	335	321	295	273	(1562)
	F	442	414	398	380	367	(2031)	358	361	350	331	313	(1713)
51 - 60	M	258	247	248	238	226	(1217)	213	222	228	228	223	(1114)
	F	302	291	290	278	264	(1425)	248	259	266	268	267	(1308)
61 - 70	M	219	215	211	211	211	(1067)	210	207	203	196	188	(1004)
	F	266	265	262	258	253	(1304)	247	239	233	227	222	(1168)
71 - 80	M	179	170	159	148	137	(793)	125	113	102	93	84	(517)
	F	216	209	201	192	181	(999)	171	160	148	135	122	(736)
81 - 95	M	75	67	59	51	43	(295)						
	F	109	95	85	77	70	(436)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3635	1609	1456	6750	215	2347	238	27608
FEMALES	3708	1618	1468	6794	206	3551	212	29489
TOTAL	7343	3227	2924	13544	421	6398	450	57097

UMATILLA COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1990

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	478	487	495	504	510	(2474)	516	518	526	532	538	(2628)
	F	480	491	498	506	514	(2489)	519	520	529	533	541	(2642)
11 - 20	M	546	562	566	565	568	(2807)	572	576	583	431	317	(2479)
	F	550	567	570	569	572	(2826)	576	581	587	436	319	(2499)
21 - 30	M	293	296	314	312	315	(1530)	346	364	377	418	484	(1989)
	F	318	288	305	296	327	(1534)	335	362	404	388	398	(1887)
31 - 40	M	409	403	420	460	454	(2146)	483	458	460	512	572	(2485)
	F	418	418	430	435	453	(2146)	455	472	487	521	570	(2505)
41 - 50	M	489	479	466	451	435	(2320)	414	387	371	351	334	(1857)
	F	577	544	515	497	462	(2595)	436	408	391	374	350	(1963)
51 - 60	M	323	321	316	283	258	(1491)	244	232	231	220	208	(1135)
	F	350	353	341	322	305	(1671)	293	281	280	268	253	(1375)
61 - 70	M	194	201	204	232	196	(997)	191	185	179	176	174	(905)
	F	237	246	252	253	251	(1239)	249	246	242	237	230	(1204)
71 - 80	M	170	166	160	152	142	(790)	133	123	113	102	91	(562)
	F	223	214	206	195	191	(1033)	183	174	165	154	141	(817)
81 - 95	M	80	78	61	52	46	(309)						
	F	129	117	105	93	81	(525)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3735	1689	1731	7156	253	2834	269	29092
FEMALES	3757	1721	1744	7212	255	3779	200	31147
TOTAL	7493	3410	3475	14378	508	6613	469	60239

UMATILLA COUNTY — YEAR 1970

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	338	336	359	345	333	(1711)	369	392	400	467	440	(2068)
	F	331	321	341	314	353	(1710)	348	335	446	406	417	(2032)
11 - 20	M	456	439	452	504	486	(2336)	541	501	439	421	367	(2319)
	F	440	443	448	447	476	(2254)	478	510	516	411	345	(2260)
21 - 30	M	280	276	272	267	263	(1359)	258	254	249	244	240	(1245)
	F	352	325	302	294	270	(1533)	260	252	247	245	244	(1248)
31 - 40	M	236	233	229	224	218	(1140)	212	207	206	214	227	(1066)
	F	245	249	250	247	241	(1232)	237	232	233	241	254	(1197)
41 - 50	M	240	254	264	267	266	(1291)	265	264	265	270	276	(1340)
	F	265	278	287	291	292	(1413)	293	294	293	291	288	(1459)
51 - 60	M	281	285	287	286	282	(1421)	278	273	267	253	248	(1324)
	F	284	279	275	272	270	(1330)	267	264	259	253	245	(1288)
61 - 70	M	239	226	216	209	203	(1092)	196	190	182	171	159	(897)
	F	238	230	221	210	199	(1098)	187	174	165	160	158	(844)
71 - 80	M	146	133	123	117	114	(633)	109	104	99	92	85	(489)
	F	156	154	151	144	136	(741)	127	119	111	102	93	(552)
81 - 95	M	77	67	54	39	23	(260)						
	F	84	74	65	55	46	(324)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	2962	1442	1531	5935	227	2433	155	22144
FEMALES	2885	1371	1504	5760	231	2705	244	22779
TOTAL	5847	2813	3035	11695	458	5138	399	44923

UMATILLA COUNTY — YEAR 1975

STANFIELD-HESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	449	453	460	453	440	(2255)	394	392	415	401	389	(1991)
	F	452	457	462	456	442	(2269)	436	377	397	371	410	(1991)
11 - 20	M	425	449	457	524	496	(2351)	512	494	507	419	305	(2237)
	F	405	442	503	463	474	(2287)	497	503	504	377	301	(2179)
21 - 30	M	335	309	312	366	429	(1751)	343	339	335	331	326	(1674)
	F	333	320	336	371	422	(1752)	429	402	380	362	347	(1920)
31 - 40	M	322	317	313	308	303	(1563)	299	296	292	287	280	(1454)
	F	337	329	325	322	321	(1634)	322	325	326	323	317	(1613)
41 - 50	M	275	265	267	258	247	(1312)	234	247	256	259	257	(1253)
	F	313	302	302	291	277	(1485)	262	274	282	286	286	(1390)
51 - 60	M	255	254	253	237	261	(1280)	265	267	267	264	259	(1322)
	F	287	287	285	284	280	(1424)	276	270	265	262	259	(1332)
61 - 70	M	253	247	239	229	218	(1186)	207	195	184	175	167	(928)
	F	255	251	246	239	231	(1222)	222	214	205	193	181	(1015)
71 - 80	M	159	152	143	132	120	(706)	103	97	87	80	75	(448)
	F	169	155	146	140	137	(748)	133	129	123	115	106	(656)
*1 - 85	M	70	64	58	52	46	(290)						
	F	96	87	79	70	61	(393)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	2865	1477	1813	5955	231	2552	180	24181
FEMALES	2838	1440	1501	5779	220	2996	235	25494
TOTAL	5703	2917	3614	11634	451	5548	415	49675

UMATILLA COUNTY — YEAR 1980

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS ONE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	481	488	493	489	491	(2442)	496	499	507	500	487	(2489)
	F	485	492	495	492	495	(2459)	499	504	509	503	489	(2534)
11 - 20	M	441	439	462	449	437	(2228)	472	495	503	427	306	(2203)
	F	434	426	445	418	457	(2229)	452	489	550	332	295	(2168)
21 - 30	M	329	332	356	338	392	(1806)	422	396	399	453	515	(2185)
	F	316	325	339	344	363	(1637)	366	383	399	433	484	(2065)
31 - 40	M	430	426	422	418	413	(2109)	409	404	399	394	390	(1996)
	F	491	484	441	423	409	(2223)	399	391	386	383	382	(1941)
41 - 50	M	385	363	339	309	283	(1679)	268	258	259	250	239	(1274)
	F	392	372	360	338	320	(1772)	308	297	298	286	272	(1461)
51 - 60	M	226	237	245	246	243	(1197)	241	233	236	237	248	(1192)
	F	256	267	275	279	278	(1355)	278	273	276	273	269	(1374)
61 - 70	M	241	241	239	235	227	(1183)	220	212	203	192	180	(1007)
	F	263	257	252	247	244	(1263)	239	234	227	219	210	(1129)
71 - 80	M	168	156	145	135	127	(731)	118	110	101	91	80	(500)
	F	201	192	181	169	156	(899)	143	130	119	112	107	(611)
81 - 85	M	70	60	51	45	41	(267)						
	F	101	95	89	80	70	(435)						

SUBTOTALS AND TOTAL	SCHOOL <-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3389	1343	1479	6137	232	2715	211	26698
FEMALES	3413	1320	1491	6224	233	3297	224	27803
TOTAL	6792	2668	2961	12411	465	6012	435	54501

UMATILLA COUNTY — YEAR 1985

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS ONE YRS OLD ON NEAT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	518	513	518	520	530	(2599)	537	543	549	546	548	(2723)
	F	521	517	523	522	533	(2616)	542	548	551	548	552	(2741)
11 - 20	M	552	556	564	557	544	(2773)	498	496	518	378	280	(2170)
	F	556	561	567	561	546	(2791)	541	482	502	356	293	(2174)
21 - 30	M	319	341	357	402	399	(1819)	421	425	448	490	484	(2268)
	F	310	342	388	371	384	(1795)	405	415	428	433	452	(2133)
31 - 40	M	514	489	491	544	606	(2643)	521	517	513	508	503	(2562)
	F	455	471	487	522	572	(2507)	579	551	529	510	495	(2665)
41 - 50	M	498	460	443	415	398	(2211)	376	353	329	299	273	(1630)
	F	445	444	423	399	389	(2140)	377	367	354	332	314	(1744)
51 - 60	M	258	247	243	239	226	(1217)	213	222	223	228	223	(1114)
	F	302	291	290	278	264	(1425)	248	259	266	268	267	(1308)
61 - 70	M	219	215	211	211	211	(1067)	210	207	203	196	188	(1004)
	F	266	265	262	258	253	(1304)	247	239	233	227	222	(1168)
71 - 80	M	179	170	159	148	137	(793)	125	113	102	93	84	(517)
	F	216	209	201	192	181	(999)	171	159	147	134	121	(732)
81 - 85	M	76	68	60	52	44	(300)						
	F	108	96	85	77	70	(436)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	3931	1665	1512	7008	224	2853	238	29648
FEMALES	3858	1674	1525	7057	214	3546	212	30889
TOTAL	7789	3339	3037	14066	438	6399	450	60537

UMATILLA COUNTY YEAR 1990

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS #N YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	531	543	553	560	566	(2753)	563	563	566	573	580	(2845)
	F	534	546	556	564	569	(2769)	571	567	573	573	584	(2868)
11 - 20	M	588	594	600	597	599	(2978)	603	606	613	454	334	(2610)
	F	592	598	602	600	603	(2997)	607	612	617	459	337	(2632)
21 - 30	M	311	314	334	337	344	(1640)	382	404	420	464	461	(2131)
	F	337	309	330	327	364	(1667)	382	413	459	442	455	(2151)
31 - 40	M	483	487	511	551	546	(2578)	574	549	551	633	663	(2940)
	F	476	485	495	513	522	(2443)	524	541	556	593	639	(2650)
41 - 50	M	590	569	555	536	514	(2754)	486	448	428	402	334	(2148)
	F	645	612	579	546	513	(2895)	478	437	416	382	391	(2104)
51 - 60	M	352	339	315	285	259	(1560)	244	232	231	220	208	(1135)
	F	369	358	345	323	305	(1700)	293	281	280	258	253	(1375)
61 - 70	M	194	201	204	202	196	(997)	191	185	179	175	174	(905)
	F	237	246	252	253	251	(1239)	249	246	242	237	230	(1204)
71 - 80	M	173	166	161	152	142	(790)	133	123	113	102	91	(562)
	F	223	214	206	199	191	(1033)	183	174	165	154	142	(818)
81 - 90	M	80	70	61	52	46	(309)						
	F	130	119	106	93	81	(528)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	4031	1796	1822	7649	266	2834	289	31907
FEMALES	4060	1805	1836	7701	268	3783	200	33513
TOTAL	8091	3601	3658	15350	534	6617	489	65420

MORROW COUNTY — YEAR 1970

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	28	35	30	45	41	(179)	34	45	44	48	45	(216)
	F	29	23	34	27	34	(147)	48	42	50	38	42	(220)
11 - 20	M	44	47	49	47	49	(236)	51	61	52	32	26	(222)
	F	49	40	47	53	60	(249)	52	50	55	35	17	(209)
21 - 30	M	27	24	21	20	19	(111)	19	19	19	20	21	(98)
	F	14	17	19	21	23	(94)	24	24	24	25	24	(121)
31 - 40	M	22	24	25	25	25	(121)	24	24	23	24	25	(120)
	F	24	24	23	24	25	(120)	26	27	27	27	26	(133)
41 - 50	M	26	27	28	27	26	(134)	25	24	23	24	24	(120)
	F	26	25	25	25	26	(127)	27	28	28	27	26	(136)
51 - 60	M	25	25	26	27	28	(131)	30	31	31	31	30	(153)
	F	24	23	22	23	25	(117)	27	29	30	29	27	(142)
61 - 70	M	29	28	27	25	23	(132)	21	19	17	17	17	(91)
	F	25	23	21	20	20	(109)	19	19	18	17	16	(89)
71 - 80	M	17	17	16	16	15	(81)	14	13	12	11	9	(59)
	F	15	14	13	13	13	(68)	13	13	13	13	12	(64)
81 - 85	M	8	6	4	2	0	(20)						
	F	12	11	10	8	6	(47)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	307	145	164	616	21	276	26	2249
FEMALES	309	160	157	626	22	292	24	2216
TOTAL	616	305	321	1242	43	568	50	4465

MORROW COUNTY — YEAR 1975

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS THE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	73	70	67	59	56	(325)	51	58	53	68	64	(294)
	F	75	70	66	60	56	(326)	51	46	57	50	57	(261)
11 - 20	M	57	68	67	71	68	(331)	67	70	72	52	41	(302)
	F	71	65	73	61	65	(335)	72	63	70	64	42	(311)
21 - 30	M	48	60	64	63	69	(304)	70	67	65	53	62	(327)
	F	48	54	65	64	58	(289)	54	57	60	62	53	(286)
31 - 40	M	62	62	63	63	64	(314)	66	67	68	68	67	(336)
	F	64	65	65	65	65	(324)	65	64	64	65	65	(323)
41 - 50	M	67	59	43	36	31	(242)	26	27	27	25	25	(131)
	F	66	59	50	37	32	(244)	25	25	24	25	25	(124)
51 - 60	M	24	23	22	22	23	(114)	23	23	24	25	25	(121)
	F	26	27	27	26	25	(131)	24	22	21	22	24	(113)
61 - 70	M	27	29	29	28	27	(133)	25	24	23	21	19	(112)
	F	26	28	29	28	26	(137)	24	22	20	19	18	(103)
71 - 80	M	17	15	14	13	13	(72)	12	12	12	11	10	(57)
	F	17	17	16	15	14	(79)	13	12	11	11	10	(57)
81 - 85	M	9	8	6	5	4	(32)						
	F	10	10	9	9	7	(45)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	419	206	209	834	30	300	27	3579
FEMALES	397	199	205	801	33	306	22	3520
TOTAL	816	405	414	1635	63	606	49	7099

MORROW COUNTY YEAR 1990

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS ARE YRS OLD ON NEXT BIRTHDAY AS OF 4-01-80

POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)

		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	82	84	84	84	84	(418)	83	81	77	69	67	(377)
	F	83	84	86	85	85	(423)	85	81	76	73	67	(379)
11 - 20	M	61	68	64	78	74	(345)	68	78	77	61	44	(328)
	F	62	57	63	61	68	(316)	82	76	84	54	43	(339)
21 - 30	M	45	48	55	59	65	(272)	71	84	88	86	92	(421)
	F	48	45	52	63	60	(268)	66	72	83	82	76	(379)
31 - 40	M	93	90	88	86	86	(443)	85	85	86	86	87	(429)
	F	72	75	78	80	81	(386)	82	82	83	83	83	(413)
41 - 50	M	88	83	86	79	72	(413)	65	57	47	34	30	(233)
	F	92	80	77	73	70	(382)	65	58	49	35	31	(239)
51 - 60	M	25	25	26	25	24	(125)	23	22	21	21	21	(108)
	F	25	24	24	24	25	(122)	25	26	26	25	24	(126)
61 - 70	M	21	21	21	22	23	(108)	23	24	24	23	22	(116)
	F	23	21	20	21	23	(108)	24	26	27	25	23	(125)
71 - 80	M	21	20	18	16	15	(90)	13	11	10	9	9	(52)
	F	21	19	18	16	16	(90)	15	14	13	12	10	(64)
81 - 85	M	8	8	7	6	5	(34)						
	F	9	8	7	6	6	(36)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND-ABOVE	AGE 35 AND ABOVE	TOTAL POPULATION
MALES	506	216	223	945	34	324	31	4344
FEMALES	498	197	242	937	34	336	21	4216
TOTAL	1004	413	465	1882	68	660	52	8560

MORROW COUNTY — YEAR 1985

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	70	72	75	77	81	(375)	83	85	85	85	85	(423)
	F	70	73	75	78	82	(379)	84	85	87	86	87	(429)
11 - 20	M	85	82	78	70	68	(383)	63	70	65	60	42	(300)
	F	86	82	77	71	68	(384)	63	58	69	46	39	(275)
21 - 30	M	39	46	46	48	48	(227)	48	52	58	62	68	(288)
	F	47	44	49	42	45	(227)	50	47	54	66	62	(279)
31 - 40	M	74	87	91	89	95	(436)	96	93	91	89	88	(457)
	F	69	74	85	84	78	(390)	74	77	80	82	83	(396)
41 - 50	M	88	87	87	86	86	(434)	86	86	84	77	70	(403)
	F	84	84	84	83	83	(418)	81	79	76	71	69	(376)
51 - 60	M	63	55	45	33	29	(225)	23	24	24	23	22	(116)
	F	64	57	48	35	30	(234)	24	23	23	23	24	(117)
61 - 70	M	21	20	19	18	18	(96)	18	18	18	18	19	(91)
	F	24	25	25	24	23	(121)	21	20	19	20	21	(101)
71 - 80	M	19	19	19	18	17	(92)	15	14	13	11	10	(63)
	F	22	23	23	22	20	(110)	18	16	14	13	12	(73)
81 - 85	M	8	7	5	4	4	(28)						
	F	11	10	9	8	7	(45)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	590	216	198	1004	30	308	35	4471
FEMALES	597	216	190	1003	28	348	20	4373
TOTAL	1187	432	388	2007	58	656	55	8844

MORROW COUNTY — YEAR 1990

STANFIELD-HESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS ENR YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	59	60	62	63	67	(311)	69	71	74	76	79	(369)
	F	59	61	62	64	66	(312)	69	72	75	77	80	(373)
11 - 20	M	82	84	84	84	84	(418)	83	81	77	52	37	(330)
	F	83	84	85	85	85	(423)	85	81	76	53	38	(333)
21 - 30	M	35	43	37	46	44	(232)	41	47	47	50	49	(234)
	F	35	32	38	34	38	(177)	46	42	48	41	44	(221)
31 - 40	M	50	53	60	64	69	(296)	76	88	92	90	95	(442)
	F	49	46	53	54	61	(273)	67	73	84	82	76	(382)
41 - 50	M	97	93	93	88	86	(454)	86	85	84	84	53	(422)
	F	73	76	78	80	82	(389)	83	83	83	82	81	(412)
51 - 60	M	82	82	80	73	66	(384)	59	51	42	33	26	(208)
	F	79	77	74	70	67	(367)	62	55	46	34	29	(226)
61 - 70	M	21	22	21	21	19	(104)	18	17	16	15	15	(81)
	F	23	22	22	22	22	(111)	23	23	23	22	21	(112)
71 - 80	M	15	15	14	14	14	(72)	14	14	13	12	11	(64)
	F	19	17	17	17	18	(88)	19	19	19	18	16	(91)
81 - 85	M	10	9	8	7	4	(38)						
	F	13	11	9	8	7	(48)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	535	252	241	1028	32	292	38	4466
FEMALES	540	256	242	1038	32	357	19	4356
TOTAL	1075	508	483	2066	64	649	57	8822

MORROW COUNTY — YEAR 1970

STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	28	35	30	45	41	(179)	34	45	44	44	45	(216)
	F	29	23	34	27	34	(147)	48	42	50	38	42	(220)
11 - 20	M	44	47	49	47	49	(236)	51	61	52	32	28	(224)
	F	40	40	47	63	50	(240)	52	50	55	35	17	(209)
21 - 30	M	27	24	21	20	19	(111)	19	19	19	20	21	(98)
	F	14	17	19	21	23	(94)	24	24	24	25	24	(121)
31 - 40	M	22	24	25	25	25	(121)	24	24	23	24	25	(120)
	F	24	24	23	24	25	(120)	26	27	27	27	26	(133)
41 - 50	M	26	27	23	27	26	(134)	25	24	23	24	24	(120)
	F	26	25	25	25	26	(127)	27	28	28	27	25	(136)
51 - 60	M	25	25	26	27	28	(131)	30	31	31	31	30	(153)
	F	24	23	22	23	25	(117)	27	29	30	29	27	(142)
61 - 70	M	29	28	27	25	23	(132)	21	19	17	17	17	(91)
	F	25	23	21	20	20	(109)	19	19	18	17	16	(89)
71 - 80	M	17	17	16	16	15	(81)	14	13	12	11	9	(59)
	F	15	14	13	13	13	(68)	13	13	13	13	12	(64)
81 - 85	M	8	6	4	2	0	(20)						
	F	12	11	10	8	6	(47)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	307	145	164	616	21	276	26	2249
FEMALES	309	160	157	626	22	292	24	2216
TOTAL	616	305	321	1242	43	568	50	4465

MORROW COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1975

NUMBER OF PERSONS ENR YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	73	71	66	59	56	(325)	51	58	53	68	64	(294)
	F	74	70	67	60	56	(327)	51	46	57	60	57	(261)
11 - 20	M	57	68	67	71	68	(331)	67	70	72	52	41	(302)
	F	71	65	73	61	65	(335)	72	63	70	64	42	(311)
21 - 30	M	48	60	64	63	69	(304)	70	67	65	63	62	(327)
	F	48	54	65	64	58	(289)	54	58	60	62	63	(297)
31 - 40	M	62	62	63	63	64	(314)	66	67	68	68	68	(337)
	F	64	65	65	65	65	(324)	65	64	64	65	65	(323)
41 - 50	M	67	59	49	36	32	(243)	26	27	27	25	25	(131)
	F	66	59	50	37	32	(244)	25	25	24	25	25	(124)
51 - 60	M	24	23	22	22	23	(114)	23	23	24	25	26	(121)
	F	26	27	27	26	25	(131)	24	22	21	22	24	(113)
61 - 70	M	27	28	28	28	27	(138)	25	24	23	21	19	(112)
	F	26	28	29	28	26	(137)	24	22	20	19	18	(103)
71 - 80	M	17	16	14	13	13	(72)	12	12	12	11	10	(57)
	F	17	17	16	15	14	(79)	13	12	11	11	10	(57)
81 - 85	M	9	8	6	5	4	(32)						
	F	10	10	9	9	7	(45)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	419	206	209	834	31	300	27	3581
FEMALES	397	199	205	801	33	306	22	3522
TOTAL	816	405	414	1635	64	606	49	7103

MORROW COUNTY — YEAR 1980

STANFIELD-WESTLAND, PROJECT UNDERTAKEN

NUMBER OF PERSONS FIVE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	78	91	82	83	83	(407)	82	80	74	67	65	(368)
	F	79	81	83	83	83	(409)	83	79	75	68	65	(370)
11 - 20	M	60	67	62	77	73	(339)	66	77	75	60	43	(321)
	F	60	55	65	59	66	(306)	80	74	82	52	41	(329)
21 - 30	M	42	45	51	55	61	(254)	67	80	84	82	69	(402)
	F	45	41	43	59	56	(249)	62	68	79	78	72	(359)
31 - 40	M	90	87	84	83	82	(426)	82	82	82	83	84	(413)
	F	68	71	74	76	77	(366)	78	79	79	79	79	(394)
41 - 50	M	85	85	85	79	72	(407)	65	57	47	35	31	(235)
	F	78	78	76	73	70	(375)	65	58	49	36	31	(239)
51 - 60	M	25	25	25	25	24	(125)	23	22	21	21	21	(108)
	F	25	24	24	24	25	(122)	25	26	26	25	24	(126)
61 - 70	M	21	21	21	22	23	(108)	23	24	24	23	22	(116)
	F	23	21	20	21	23	(108)	24	26	27	25	23	(125)
71 - 80	M	21	20	18	16	15	(90)	13	11	10	8	8	(50)
	F	21	19	18	16	16	(90)	15	14	13	12	11	(65)
81 - 85	M	7	7	6	5	4	(29)						
	F	10	9	7	6	6	(38)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	495	212	218	925	33	316	31	4229
FEMALES	495	191	236	912	33	339	21	4091
TOTAL	990	403	454	1937	66	655	52	8320

MORROW COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1985

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	71	73	76	77	80	(377)	81	84	85	87	87	(424)
	F	72	74	76	77	80	(379)	83	85	87	87	87	(429)
11 - 20	M	85	83	78	71	69	(386)	63	70	65	60	43	(301)
	F	86	83	79	72	69	(389)	63	58	69	47	39	(276)
21 - 30	M	40	47	49	52	51	(239)	51	54	59	63	69	(296)
	F	47	45	51	46	49	(238)	52	49	55	66	63	(285)
31 - 40	M	79	89	92	90	97	(443)	98	94	92	91	90	(465)
	F	69	75	86	84	79	(393)	75	78	81	82	84	(400)
41 - 50	M	89	89	87	84	83	(431)	83	84	83	77	76	(397)
	F	85	84	83	80	79	(411)	77	77	75	72	69	(370)
51 - 60	M	53	55	45	33	29	(225)	23	24	24	23	22	(116)
	F	64	57	48	35	30	(234)	24	23	23	23	24	(117)
61 - 70	M	21	20	19	18	18	(96)	16	18	18	18	19	(91)
	F	24	25	25	24	23	(121)	21	20	19	20	21	(101)
71 - 80	M	19	19	19	18	17	(92)	15	14	13	11	10	(63)
	F	22	23	23	22	20	(110)	18	16	14	13	12	(73)
81 - 85	M	8	7	6	4	4	(29)						
	F	11	10	9	8	6	(44)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	592	218	193	1003	31	309	35	4505
FEMALES	598	220	190	1008	28	347	20	4389
TOTAL	1190	438	383	2016	59	656	55	8894

HORROR COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1990

NUMBER OF PERSONS ENT YRS OLD ON NEXT BIRTHDAY AS OF +-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	61	63	64	66	68	(321)	70	73	75	76	79	(373)
	F	62	63	65	67	69	(326)	71	74	75	77	79	(376)
11 - 20	M	81	84	85	86	86	(422)	84	83	77	52	38	(334)
	F	82	84	85	86	86	(424)	86	82	78	53	38	(337)
21 - 30	M	36	41	39	48	46	(210)	43	51	52	56	55	(257)
	F	35	37	39	35	39	(181)	48	45	52	46	49	(240)
31 - 40	M	54	57	63	67	72	(313)	79	91	95	93	99	(457)
	F	52	49	55	66	63	(285)	69	75	86	84	78	(392)
41 - 50	M	100	96	92	90	88	(466)	87	86	84	82	80	(419)
	F	75	79	80	82	83	(398)	83	83	82	79	77	(404)
51 - 60	M	80	81	79	73	66	(379)	59	51	42	30	27	(209)
	F	76	75	73	70	67	(361)	62	55	46	34	29	(226)
61 - 70	M	21	22	21	21	19	(104)	18	17	16	15	15	(81)
	F	23	22	22	22	22	(111)	23	23	23	22	21	(112)
71 - 80	M	15	15	14	14	14	(72)	14	14	13	12	11	(64)
	F	19	17	17	17	18	(88)	19	19	19	18	16	(91)
81 - 85	M	10	9	8	6	4	(37)						
	F	13	11	9	8	7	(48)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	538	257	244	1039	32	291	38	4555
FEMALES	542	258	246	1046	32	357	19	4418
TOTAL	1080	515	490	2085	64	648	57	8973

MORROW COUNTY — YEAR 1970

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AGE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	28	35	30	45	41	(179)	34	45	44	48	45	(216)
	F	29	21	34	27	34	(147)	48	42	50	38	42	(220)
11 - 20	M	44	47	48	47	49	(236)	51	51	52	32	25	(222)
	F	49	40	47	53	50	(249)	52	50	55	35	17	(209)
21 - 30	M	27	24	21	20	19	(111)	19	19	19	20	21	(98)
	F	14	17	19	21	23	(94)	24	24	24	25	24	(121)
31 - 40	M	22	24	25	25	25	(121)	24	24	23	24	25	(120)
	F	24	24	23	24	25	(120)	26	27	27	27	26	(133)
41 - 50	M	26	27	23	27	26	(134)	25	24	23	24	24	(120)
	F	26	25	25	25	26	(127)	27	23	28	27	26	(136)
51 - 60	M	25	25	26	27	28	(131)	30	31	31	31	30	(153)
	F	24	23	22	23	25	(117)	27	29	30	29	27	(142)
61 - 70	M	29	28	27	25	23	(132)	21	19	17	17	17	(91)
	F	25	27	21	20	20	(109)	19	19	18	17	16	(89)
71 - 80	M	17	17	16	16	15	(81)	14	13	12	11	9	(59)
	F	15	14	13	13	13	(68)	13	13	13	13	12	(64)
81 - 90	M	8	6	4	2	0	(20)						
	F	12	11	10	8	6	(47)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 35 AND ABOVE	TOTAL POPULATION
MALES	337	145	164	646	21	276	26	2249
FEMALES	309	160	157	626	22	292	24	2216
TOTAL	646	305	321	1242	43	568	50	4465

MORROW COUNTY — YEAR 1975

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	73	71	66	59	56	(325)	51	58	53	68	64	(294)
	F	74	70	67	60	56	(327)	51	46	57	50	57	(261)
11 - 20	M	57	68	67	71	68	(331)	67	70	72	52	41	(302)
	F	71	65	73	61	65	(335)	72	63	70	64	42	(311)
21 - 30	M	48	60	64	63	69	(304)	70	67	65	63	62	(327)
	F	48	54	65	64	58	(289)	54	57	60	62	63	(296)
31 - 40	M	62	62	63	53	64	(314)	66	67	68	68	67	(336)
	F	64	65	65	65	65	(324)	65	64	64	65	65	(323)
41 - 50	M	67	59	49	36	32	(243)	26	27	27	26	25	(131)
	F	66	59	50	37	32	(244)	25	25	24	25	25	(124)
51 - 60	M	24	23	22	22	23	(114)	23	23	24	25	26	(121)
	F	26	27	27	26	25	(131)	24	22	21	22	24	(113)
61 - 70	M	27	29	28	28	27	(139)	25	24	23	21	19	(112)
	F	28	28	29	28	26	(137)	24	22	20	19	18	(103)
71 - 80	M	17	15	14	13	13	(72)	12	12	12	11	10	(57)
	F	17	17	16	15	14	(79)	13	12	11	11	10	(57)
81 - 85	M	9	8	6	5	4	(32)						
	F	10	10	9	9	7	(45)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	419	206	209	834	31	330	27	3580
FEMALES	397	199	205	801	33	306	22	3521
TOTAL	816	405	414	1635	64	606	49	7101

MORROW COUNTY — YEAR 1980

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AT YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	89	89	90	88	88	(444)	86	84	79	72	70	(381)
	F	89	91	91	89	88	(448)	87	84	80	73	70	(394)
11 - 20	M	64	71	66	81	77	(359)	70	81	80	63	46	(340)
	F	64	59	73	63	70	(326)	84	73	86	56	44	(343)
21 - 30	M	60	58	67	71	77	(323)	84	96	100	99	105	(484)
	F	50	40	57	69	66	(291)	72	78	89	87	82	(408)
31 - 40	M	106	103	101	99	98	(507)	98	98	98	99	100	(493)
	F	78	81	84	86	87	(416)	88	88	89	89	89	(443)
41 - 50	M	101	96	93	93	73	(440)	65	57	47	35	30	(234)
	F	98	85	80	73	70	(396)	65	58	49	36	31	(239)
51 - 60	M	25	25	26	25	24	(125)	23	22	21	21	21	(108)
	F	25	24	24	24	25	(122)	25	26	26	25	24	(126)
61 - 70	M	21	21	21	22	23	(108)	23	24	24	23	22	(116)
	F	23	21	20	21	23	(108)	24	26	27	25	23	(125)
71 - 80	M	21	20	18	16	15	(90)	13	11	10	9	9	(52)
	F	21	19	13	16	16	(90)	15	14	13	12	11	(65)
81 - 85	M	7	7	6	5	4	(29)						
	F	10	9	8	7	6	(40)						

SUBTOTALS AND TOTAL	SC-COL K-6	SC-COL 7-9	SC-COL 10-12	SC-COL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	526	224	231	981	35	318	31	4674
FEMALES	517	203	248	968	35	341	21	4406
TOTAL	1043	427	479	1949	70	659	52	9080

MORROW COUNTY — YEAR 1985

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEOBLE SPRINGS

NUMBER OF PERSONS ARE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	79	81	84	86	89	(419)	92	91	92	90	91	(456)
	F	80	82	85	86	90	(423)	92	93	93	91	91	(460)
11 - 20	M	89	87	82	75	72	(405)	67	74	69	63	45	(318)
	F	90	86	83	76	73	(408)	67	62	73	50	41	(293)
21 - 30	M	42	50	52	56	59	(259)	63	71	80	84	90	(388)
	F	50	48	55	49	52	(254)	58	57	65	77	74	(331)
31 - 40	M	96	109	113	111	117	(546)	118	115	113	111	110	(567)
	F	80	86	97	95	89	(447)	86	89	91	93	94	(453)
41 - 50	M	110	109	107	104	102	(532)	99	94	87	77	70	(427)
	F	95	94	93	90	89	(461)	87	83	79	72	69	(390)
51 - 60	M	53	55	45	33	29	(225)	23	24	24	23	22	(116)
	F	64	57	48	35	30	(234)	24	23	23	23	24	(117)
61 - 70	M	21	20	19	18	18	(96)	18	18	18	18	19	(91)
	F	24	25	25	24	23	(121)	21	20	19	20	21	(101)
71 - 80	M	19	19	19	18	17	(92)	15	14	13	11	10	(63)
	F	22	23	23	22	20	(110)	18	16	14	13	12	(73)
81 - 85	M	8	7	6	4	4	(29)						
	F	11	10	9	8	7	(45)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	632	229	210	1071	32	309	35	5063
FEMALES	636	232	202	1070	30	348	20	4740
TOTAL	1268	461	412	2141	62	657	55	9803

MORROW COUNTY — YEAR 1990

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	68	71	71	73	76	(358)	78	80	83	85	88	(414)
	F	69	71	72	74	77	(363)	79	81	84	85	89	(418)
11 - 20	M	91	93	91	89	90	(451)	88	86	80	55	40	(349)
	F	91	92	92	90	90	(455)	89	85	82	56	40	(352)
21 - 30	M	38	43	41	50	48	(220)	46	53	55	60	62	(276)
	F	37	35	42	38	43	(195)	52	50	57	51	54	(264)
31 - 40	M	67	75	83	87	93	(405)	99	112	115	114	120	(560)
	F	66	58	67	79	75	(339)	82	87	98	97	91	(455)
41 - 50	M	121	116	113	110	109	(569)	107	106	104	101	99	(517)
	F	87	90	92	93	94	(456)	94	93	91	89	88	(454)
51 - 60	M	95	90	84	73	66	(408)	59	51	42	30	27	(209)
	F	85	82	77	70	67	(381)	62	55	46	34	29	(226)
61 - 70	M	21	22	21	21	19	(104)	18	17	16	15	15	(81)
	F	23	22	22	22	22	(111)	23	23	23	22	21	(112)
71 - 80	M	15	15	14	14	14	(72)	14	14	13	12	11	(64)
	F	19	17	17	17	18	(88)	19	19	19	18	16	(91)
81 - 85	M	10	9	8	7	5	(39)						
	F	14	12	10	9	8	(53)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	595	270	254	1119	33	294	33	5134
FEMALES	601	272	256	1129	34	363	19	4832
TOTAL	1196	542	510	2248	67	657	57	9966

GILLIAM COUNTY — YEAR 1970

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-70		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	25	15	20	16	18	(94)	17	15	22	24	23	(101)
	F	14	10	22	17	9	(72)	14	22	17	29	29	(111)
11 - 20	M	32	23	32	24	33	(144)	30	29	29	19	5	(112)
	F	20	40	25	35	18	(138)	29	29	30	14	10	(112)
21 - 30	M	25	21	17	15	13	(91)	12	11	11	11	12	(57)
	F	16	14	13	11	11	(65)	10	10	11	11	12	(54)
31 - 40	M	13	14	14	14	13	(68)	13	12	12	12	12	(61)
	F	12	13	14	14	13	(66)	13	12	12	13	15	(65)
41 - 50	M	12	11	12	13	14	(62)	15	16	17	17	16	(81)
	F	16	17	18	18	16	(85)	15	14	13	12	12	(66)
51 - 60	M	16	15	14	15	15	(75)	15	15	15	15	14	(74)
	F	12	11	11	12	12	(58)	13	13	13	13	12	(64)
61 - 70	M	13	12	11	10	9	(55)	8	7	7	7	7	(36)
	F	11	10	9	9	8	(47)	8	8	7	8	8	(39)
71 - 80	M	7	9	8	7	6	(36)	5	5	4	3	3	(20)
	F	9	10	10	9	8	(46)	7	6	5	5	4	(27)
81 - 85	M	3	3	3	3	4	(16)						
	F	4	3	4	4	5	(20)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	159	89	88	336	12	114	7	1192
FEMALES	171	78	88	337	11	147	16	1150
TOTAL	330	167	176	673	23	261	23	2342

GILLIAM COUNTY — YEAR 1975

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	18	17	17	17	18	(87)	26	16	21	17	13	(93)
	F	18	13	17	17	17	(87)	15	11	23	13	15	(77)
11 - 20	M	18	16	21	25	29	(109)	33	24	33	19	19	(128)
	F	15	23	19	30	30	(116)	21	41	26	27	11	(126)
21 - 30	M	17	17	16	15	6	(71)	26	21	18	15	13	(93)
	F	17	17	17	11	10	(72)	17	15	13	12	11	(68)
31 - 40	M	12	12	12	12	12	(60)	13	14	15	15	14	(71)
	F	11	11	11	11	12	(56)	13	14	14	14	14	(69)
41 - 50	M	13	13	12	12	12	(62)	11	11	11	12	13	(58)
	F	13	12	12	13	15	(65)	16	17	18	17	16	(84)
51 - 60	M	14	15	16	16	15	(77)	15	14	13	13	14	(69)
	F	15	13	12	12	12	(64)	11	11	11	11	12	(56)
61 - 70	M	14	14	14	13	12	(67)	11	10	9	8	8	(46)
	F	12	13	13	12	11	(61)	10	9	9	8	8	(44)
71 - 80	M	7	6	5	5	5	(28)	5	6	6	5	4	(26)
	F	7	7	7	7	7	(35)	8	8	8	7	5	(36)
81 - 85	M	2	2	1	1	1	(7)						
	F	4	4	3	2	2	(15)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	133	75	90	298	12	115	8	1166
FEMALES	115	78	88	281	13	144	15	1145
TOTAL	248	153	178	579	25	259	23	2311

GILLIAM COUNTY — YEAR 1980

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS WHO WILL BE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	19	20	19	19	18	(95)	19	18	18	18	18	(91)
	F	19	19	19	19	19	(95)	19	19	18	18	17	(91)
11 - 20	M	20	16	21	17	19	(99)	18	16	21	19	16	(90)
	F	15	11	23	18	10	(77)	15	23	19	23	17	(96)
21 - 30	M	19	13	19	15	20	(86)	19	18	18	16	7	(78)
	F	12	23	15	21	11	(82)	18	18	18	12	11	(77)
31 - 40	M	27	22	19	17	15	(100)	14	13	13	13	14	(67)
	F	17	15	14	13	12	(71)	12	12	12	12	13	(61)
41 - 50	M	14	15	16	16	14	(75)	13	12	12	12	11	(60)
	F	13	14	15	14	14	(70)	13	12	12	13	14	(64)
51 - 60	M	11	11	11	12	13	(58)	14	15	15	15	14	(73)
	F	15	17	17	17	15	(81)	14	13	12	11	11	(61)
61 - 70	M	12	13	12	12	12	(62)	12	12	12	11	10	(57)
	F	11	10	10	11	11	(53)	11	12	12	11	10	(56)
71 - 80	M	9	8	7	7	6	(37)	5	4	4	4	4	(21)
	F	9	8	8	7	7	(39)	6	6	5	5	5	(28)
81 - 90	M	4	3	2	2	1	(12)						
	F	6	6	6	5	4	(27)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	133	57	55	245	10	136	10	1178
FEMALES	117	51	56	224	10	164	14	1143
TOTAL	250	108	111	469	20	300	24	2313

GILLIAM COUNTY — YEAR 1985

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS 2NE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	18	18	19	19	19	(93)	19	21	28	20	13	(93)
	F	19	19	19	19	19	(94)	19	20	20	20	20	(93)
11 - 20	M	19	18	18	18	19	(92)	27	17	22	13	11	(90)
	F	19	19	18	18	18	(92)	16	12	24	14	6	(72)
21 - 30	M	11	10	13	15	17	(66)	19	14	19	15	21	(88)
	F	9	14	11	18	18	(70)	13	24	16	21	12	(86)
31 - 40	M	19	19	15	17	8	(81)	27	23	20	17	15	(102)
	F	18	18	19	12	12	(79)	18	16	14	13	13	(74)
41 - 50	M	14	13	13	13	13	(66)	14	15	16	15	14	(74)
	F	12	12	12	12	13	(61)	13	14	14	14	13	(68)
51 - 60	M	12	12	11	11	11	(57)	10	10	10	11	12	(53)
	F	13	12	12	13	14	(64)	15	16	17	16	15	(79)
61 - 70	M	12	13	14	13	12	(64)	12	11	10	10	10	(53)
	F	14	12	11	11	11	(59)	10	10	10	10	10	(50)
71 - 80	M	10	10	9	8	8	(45)	7	6	5	5	4	(27)
	F	10	11	10	10	9	(50)	8	7	6	6	4	(31)
81 - 95	M	2	2	1	1	1	(7)						
	F	4	3	3	3	3	(16)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	136	55	66	257	8	143	11	1168
FEMALES	137	54	52	243	9	160	14	1157
TOTAL	273	109	118	500	17	303	25	2325

GILLIAM COUNTY — YEAR 1993

STANFIELD-WESTLAND, CONSERVATIVE DEVELOPMENT W/O PROJECT

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-93		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	15	16	17	17	17	(82)	18	18	19	19	19	(93)
	F	16	16	17	17	18	(84)	18	19	19	19	19	(94)
11 - 20	M	19	20	18	20	19	(97)	19	18	18	14	10	(79)
	F	19	19	19	20	20	(97)	19	19	18	14	10	(80)
21 - 30	M	15	10	12	10	11	(58)	11	10	13	15	17	(66)
	F	9	7	14	11	6	(47)	9	14	11	18	18	(70)
31 - 40	M	19	14	19	16	21	(89)	19	19	19	17	8	(82)
	F	13	24	16	21	12	(86)	18	18	19	13	12	(80)
41 - 50	M	27	23	19	17	15	(101)	14	13	13	13	13	(66)
	F	16	16	14	13	12	(73)	12	12	12	12	12	(60)
51 - 60	M	13	14	15	14	13	(69)	12	11	10	10	10	(53)
	F	13	14	14	14	13	(68)	12	11	11	12	13	(59)
61 - 70	M	9	9	9	10	10	(47)	11	11	12	11	10	(55)
	F	14	15	16	15	14	(74)	13	11	10	10	10	(54)
71 - 80	M	9	9	8	8	8	(42)	7	7	6	6	5	(31)
	F	9	9	8	8	9	(43)	9	9	9	8	7	(42)
81 - 85	M	4	4	3	3	2	(16)						
	F	6	5	4	4	2	(21)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	132	58	55	245	7	156	12	1138
FEMALES	132	59	56	247	7	173	13	1145
TOTAL	264	117	111	492	14	329	25	2283

GILLIAM COUNTY
STANFIELD-HESTLAND, PROJECT UNDERTAKEN

YEAR 1970

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-71		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	25	15	20	16	18	(94)	17	15	20	24	28	(104)
	F	14	10	22	17	9	(72)	14	22	17	29	29	(111)
11 - 20	M	32	23	32	24	33	(144)	30	29	29	19	5	(112)
	F	20	40	25	35	18	(138)	29	29	30	14	10	(112)
21 - 30	M	25	21	17	15	13	(91)	12	11	11	11	12	(57)
	F	16	14	13	11	11	(65)	10	10	11	11	12	(54)
31 - 40	M	13	14	14	14	13	(68)	13	12	12	12	12	(61)
	F	12	13	14	14	13	(66)	13	12	12	13	15	(65)
41 - 50	M	12	11	12	13	14	(62)	15	16	17	17	15	(81)
	F	16	17	18	18	16	(85)	15	14	13	12	12	(66)
51 - 60	M	16	15	14	15	15	(75)	15	15	15	15	14	(74)
	F	12	11	11	12	12	(58)	13	13	13	13	12	(64)
61 - 70	M	13	12	11	10	9	(55)	8	7	7	7	7	(36)
	F	11	10	9	9	8	(47)	8	8	7	8	8	(39)
71 - 80	M	7	8	8	7	6	(36)	5	5	4	3	3	(20)
	F	9	10	10	9	8	(46)	7	6	5	5	4	(27)
81 - 85	M	3	3	3	3	4	(16)						
	F	4	3	4	4	5	(20)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	159	89	88	336	12	114	7	1192
FEMALES	171	78	88	337	11	147	16	1150
TOTAL	330	167	176	673	23	261	23	2342

GILLIAM COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1975

NUMBER OF PERSONS FIVE YRS OLD OR NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	18	17	16	16	17	(84)	26	16	21	17	19	(99)
	F	18	19	17	17	17	(87)	15	11	23	18	10	(77)
11 - 20	M	18	16	21	25	29	(109)	33	24	33	18	19	(127)
	F	15	27	18	30	30	(116)	21	41	26	27	11	(126)
21 - 30	M	17	17	16	15	5	(70)	25	21	13	15	13	(92)
	F	17	17	17	11	10	(72)	17	14	13	12	11	(67)
31 - 40	M	12	12	11	12	12	(59)	13	14	15	14	14	(70)
	F	11	11	11	11	12	(56)	13	13	14	14	13	(67)
41 - 50	M	13	12	12	12	12	(61)	11	11	11	12	13	(58)
	F	13	12	12	13	14	(64)	16	17	18	17	16	(84)
51 - 60	M	14	16	16	16	15	(77)	15	14	13	13	14	(69)
	F	15	13	12	12	12	(64)	11	11	11	11	12	(56)
61 - 70	M	14	14	14	13	12	(67)	11	10	9	8	8	(46)
	F	12	13	13	12	11	(61)	10	9	9	8	8	(44)
71 - 80	M	7	6	5	5	5	(28)	5	6	6	5	4	(26)
	F	7	7	7	7	7	(35)	8	8	8	7	5	(36)
81 - 90	M	3	3	1	1	1	(9)						
	F	4	4	3	2	2	(15)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	133	75	90	298	12	117	8	1159
FEMALES	115	78	88	281	13	144	15	1141
TOTAL	248	153	178	579	25	261	23	2300

GILLIAN COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1980

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	19	19	19	19	19	(94)	18	18	17	17	17	(87)
	F	20	19	19	19	18	(95)	18	19	18	18	17	(90)
11 - 20	M	26	19	21	17	19	(99)	18	16	21	19	15	(90)
	F	15	11	23	18	10	(77)	15	23	19	23	17	(96)
21 - 30	M	18	13	13	14	20	(83)	18	18	17	16	7	(76)
	F	12	23	15	20	11	(81)	17	17	18	11	11	(74)
31 - 40	M	26	22	19	16	14	(97)	13	13	12	13	13	(64)
	F	17	15	13	12	11	(68)	11	11	11	12	12	(57)
41 - 50	M	14	15	16	16	14	(75)	13	12	12	12	11	(60)
	F	13	14	14	14	14	(69)	13	12	12	13	14	(64)
51 - 60	M	11	11	11	12	13	(58)	14	15	15	15	14	(73)
	F	15	17	17	17	15	(81)	14	13	12	11	11	(61)
61 - 70	M	13	13	12	12	12	(62)	12	12	12	11	10	(57)
	F	11	10	10	11	11	(53)	11	12	12	11	10	(56)
71 - 80	M	9	9	7	7	6	(37)	5	4	4	4	3	(20)
	F	9	8	8	7	7	(39)	6	6	5	5	6	(28)
81 - 85	M	3	3	2	2	1	(11)						
	F	6	6	6	5	4	(27)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	129	57	55	241	9	134	10	1152
FEMALES	116	51	56	223	10	165	14	1131
TOTAL	245	108	111	464	19	299	24	2283

GILLIAM COUNTY
STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1985

NUMBER OF PERSONS WHO WILL BE OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	18	18	18	19	19	(92)	18	19	19	19	20	(95)
	F	18	18	19	19	18	(92)	19	19	19	19	19	(95)
11 - 20	M	19	18	17	17	17	(88)	26	16	21	13	11	(87)
	F	19	18	18	18	17	(91)	15	11	23	14	6	(69)
21 - 30	M	10	9	12	15	16	(62)	18	13	13	15	20	(84)
	F	9	13	11	18	18	(69)	13	24	15	21	12	(85)
31 - 40	M	18	18	18	16	7	(77)	26	22	19	16	14	(97)
	F	16	18	18	12	11	(77)	18	15	14	13	12	(72)
41 - 50	M	13	13	12	12	13	(63)	13	15	15	15	13	(71)
	F	12	12	12	12	12	(60)	13	14	14	14	13	(68)
51 - 60	M	12	12	11	11	11	(57)	10	10	10	11	12	(53)
	F	13	12	12	13	14	(64)	15	16	17	16	15	(79)
61 - 70	M	12	13	14	13	12	(64)	12	11	10	10	10	(53)
	F	14	12	11	11	11	(59)	10	10	10	10	10	(50)
71 - 80	M	10	10	9	8	8	(45)	7	6	5	5	4	(27)
	F	10	11	10	10	9	(50)	8	7	6	6	4	(31)
81 - 85	M	3	3	2	2	2	(12)						
	F	4	3	3	3	3	(16)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	132	51	63	245	5	149	11	1139
FEMALES	133	53	49	235	9	160	14	1140
TOTAL	265	104	112	481	17	309	25	2279

GILLIAM COUNTY

STANFIELD-WESTLAND, PROJECT UNDERTAKEN

YEAR 1990

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-1-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	15	16	16	17	18	(82)	17	18	18	19	18	(91)
	F	16	16	17	17	17	(83)	18	18	19	19	18	(92)
11 - 20	M	18	19	19	19	19	(94)	19	18	17	13	10	(77)
	F	19	19	19	19	18	(94)	19	18	18	14	10	(80)
21 - 30	M	15	9	12	10	11	(57)	11	10	13	15	17	(66)
	F	9	7	13	11	6	(46)	9	14	11	18	18	(70)
31 - 40	M	19	14	19	15	20	(87)	19	18	18	16	7	(78)
	F	13	24	16	21	12	(86)	18	18	19	12	12	(79)
41 - 50	M	27	22	19	16	14	(98)	13	12	12	12	12	(61)
	F	18	16	14	13	12	(73)	12	11	11	12	12	(58)
51 - 60	M	13	14	15	14	13	(69)	12	11	10	10	10	(53)
	F	12	13	14	14	13	(66)	12	11	11	12	13	(59)
61 - 70	M	9	9	9	10	10	(47)	11	11	12	11	10	(55)
	F	14	15	16	15	14	(74)	13	11	10	10	10	(54)
71 - 80	M	9	9	8	8	8	(42)	7	7	6	6	5	(31)
	F	9	9	8	8	9	(43)	9	9	9	8	7	(42)
81 - 85	M	4	4	3	3	2	(16)						
	F	6	5	4	3	2	(20)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	128	57	54	239	7	156	12	1116
FEMALES	130	56	56	242	7	172	13	1132
TOTAL	258	113	110	481	14	328	25	2248

GILLIAM COUNTY — YEAR 1979

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-79		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	25	15	23	16	18	(94)	17	15	20	24	28	(104)
	F	14	10	22	17	9	(72)	14	22	17	29	29	(111)
11 - 20	M	32	23	32	24	33	(144)	30	29	29	19	5	(112)
	F	20	40	25	35	18	(138)	29	29	30	14	10	(112)
21 - 30	M	25	21	17	15	13	(91)	12	11	11	11	12	(57)
	F	16	14	13	11	11	(65)	10	10	11	11	12	(54)
31 - 40	M	13	14	14	14	13	(68)	13	12	12	12	12	(61)
	F	12	13	14	14	13	(66)	13	12	12	13	15	(65)
41 - 50	M	12	11	12	13	14	(62)	15	16	17	17	16	(81)
	F	16	17	19	18	16	(85)	15	14	13	12	12	(66)
51 - 60	M	16	15	14	15	15	(75)	15	15	15	15	14	(74)
	F	12	11	11	12	12	(58)	13	13	13	13	12	(64)
61 - 70	M	13	12	11	10	9	(55)	8	7	7	7	7	(36)
	F	11	10	9	9	8	(47)	8	8	7	8	8	(39)
71 - 80	M	7	8	9	7	6	(36)	5	5	4	3	3	(20)
	F	9	10	10	9	8	(46)	7	6	5	5	4	(27)
81 - 85	M	3	3	3	3	4	(16)						
	F	4	3	4	4	5	(20)						

SUBTOTALS AND TOTAL	SCHOOL K-6	SCHOOL 7-9	SCHOOL 10-12	SCHOOL ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	159	89	88	336	12	114	7	1192
FEMALES	171	78	88	337	11	147	16	1150
TOTAL	330	167	176	673	23	261	23	2342

GILLIAM COUNTY — YEAR 1975

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AN# YRS OLD ON NEXT BIRTHDAY AS OF 4-30-75		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	19	17	15	16	17	(84)	26	16	21	17	19	(99)
	F	16	19	17	17	17	(87)	15	11	23	18	10	(77)
11 - 20	M	18	16	21	25	29	(109)	33	24	33	18	19	(127)
	F	15	23	19	30	30	(116)	21	41	26	27	11	(126)
21 - 30	M	17	17	16	15	5	(70)	25	21	18	15	13	(92)
	F	17	17	17	11	10	(72)	17	14	13	12	11	(67)
31 - 40	M	12	12	11	12	12	(59)	13	14	15	14	14	(70)
	F	11	11	11	11	12	(56)	13	13	14	14	13	(67)
41 - 50	M	13	12	12	12	12	(61)	11	11	11	12	13	(58)
	F	13	12	12	13	14	(64)	16	17	18	17	15	(84)
51 - 60	M	14	16	16	16	15	(77)	15	14	13	13	14	(69)
	F	15	13	12	12	12	(64)	11	11	11	11	12	(56)
61 - 70	M	14	14	14	13	12	(67)	11	10	9	9	8	(46)
	F	12	13	13	12	11	(61)	10	9	9	8	8	(44)
71 - 80	M	7	6	5	5	5	(28)	5	6	6	5	4	(26)
	F	7	7	7	7	7	(35)	8	8	8	7	5	(36)
81 - 85	M	3	3	1	1	1	(9)						
	F	4	4	3	2	2	(15)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	133	75	90	298	12	117	8	1159
FEMALES	115	78	88	281	13	144	15	1141
TOTAL	248	153	178	579	25	261	23	2300

GILLIAM COUNTY — YEAR 1980

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AGE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-80		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	31	31	29	25	24	(140)	24	23	22	22	22	(113)
	F	32	31	29	24	25	(141)	24	24	23	23	22	(116)
11 - 20	M	31	21	26	22	24	(124)	23	21	26	23	19	(112)
	F	20	16	23	23	15	(102)	20	23	23	27	20	(113)
21 - 30	M	29	32	43	44	50	(203)	48	48	47	45	35	(224)
	F	16	31	27	33	23	(130)	30	30	30	24	23	(137)
31 - 40	M	56	52	48	46	44	(246)	43	42	42	42	43	(212)
	F	29	27	26	25	24	(131)	24	23	24	24	25	(120)
41 - 50	M	44	38	29	16	14	(141)	13	12	12	12	11	(60)
	F	25	25	22	14	14	(100)	13	12	12	13	14	(64)
51 - 60	M	11	11	11	12	13	(58)	14	15	15	15	14	(73)
	F	15	17	17	17	15	(81)	14	13	12	11	11	(61)
61 - 70	M	13	13	12	12	12	(62)	12	12	12	11	10	(57)
	F	11	10	10	11	11	(53)	11	12	12	11	10	(56)
71 - 80	M	9	8	7	7	6	(37)	5	4	4	4	4	(21)
	F	9	9	8	7	7	(39)	6	6	5	5	6	(28)
81 - 85	M	4	4	2	2	1	(13)						
	F	6	6	6	5	4	(27)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	165	72	70	307	12	137	10	1905
FEMALES	152	66	71	289	12	164	14	1518
TOTAL	317	138	141	596	24	301	24	3423

GILLIAM COUNTY — YEAR 1985

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AND YRS OLD ON NEXT BIRTHDAY AS OF 4-30-85		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	18	17	20	21	22	(98)	23	23	20	17	15	(98)
	F	17	18	20	21	23	(99)	24	23	20	16	15	(98)
11 - 20	M	15	15	14	14	14	(72)	23	13	13	11	9	(74)
	F	15	16	15	15	14	(75)	12	8	20	11	4	(55)
21 - 30	M	7	5	8	12	20	(52)	29	33	48	45	58	(205)
	F	6	9	6	12	12	(45)	8	23	19	25	15	(90)
31 - 40	M	49	48	48	46	37	(228)	56	52	49	46	44	(247)
	F	22	22	22	16	15	(97)	21	19	18	16	16	(90)
41 - 50	M	43	45	47	47	47	(229)	43	37	28	15	14	(137)
	F	15	17	20	22	24	(98)	25	24	21	14	13	(97)
51 - 60	M	12	12	11	11	11	(57)	10	10	10	11	12	(53)
	F	13	12	12	13	14	(64)	15	16	17	16	15	(79)
61 - 70	M	12	13	14	13	12	(64)	12	11	10	10	10	(53)
	F	14	12	11	11	11	(59)	10	10	10	10	10	(53)
71 - 80	M	10	10	9	8	8	(45)	7	6	5	5	4	(27)
	F	10	11	10	10	9	(50)	8	7	6	5	4	(30)
81 - 85	M	2	2	1	1	1	(7)						
	F	4	3	3	3	3	(16)						

SUBTOTALS AND TOTAL	SCHOOL K-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	128	42	54	224	7	143	11	1755
FEMALES	130	44	40	214	7	159	14	1206
TOTAL	258	86	94	438	14	302	25	2961

GILLIAN COUNTY — YEAR 1990

STANFIELD-WESTLAND, FULL PROJECT PLUS ALUMAX, PEBBLE SPRINGS

NUMBER OF PERSONS AGE YRS OLD ON NEXT BIRTHDAY AS OF 4-30-90		POPULATION TALLY BY SEX AND AGE GROUP (1 YR AND 5 YR AGE COHORTS)											
		1	2	3	4	5	(5 YR)	6	7	8	9	10	(5 YR)
1 - 10	M	15	14	13	12	13	(67)	13	14	17	18	19	(81)
	F	15	14	14	13	13	(69)	14	15	17	13	18	(83)
11 - 20	M	19	20	17	14	12	(82)	12	11	10	8	5	(47)
	F	20	20	17	13	13	(83)	12	12	11	9	6	(50)
21 - 30	M	12	8	11	9	9	(49)	8	6	9	13	21	(57)
	F	7	6	14	11	7	(45)	9	12	9	15	15	(60)
31 - 40	M	30	33	49	45	50	(207)	49	48	48	46	37	(228)
	F	12	26	22	28	18	(106)	25	25	25	19	18	(112)
41 - 50	M	56	51	46	44	42	(239)	42	44	46	46	45	(223)
	F	24	20	17	15	15	(91)	15	17	19	21	23	(95)
51 - 60	M	41	35	27	14	13	(130)	12	11	10	10	10	(53)
	F	24	24	21	14	13	(96)	12	11	11	12	13	(59)
61 - 70	M	9	9	9	10	10	(47)	11	11	12	11	10	(55)
	F	14	15	16	15	14	(74)	13	11	10	10	10	(54)
71 - 80	M	9	9	8	8	8	(42)	7	7	6	6	5	(31)
	F	9	9	8	8	9	(43)	9	9	9	8	7	(42)
81 - 85	M	3	3	2	2	1	(11)						
	F	6	5	4	3	2	(20)						

SUBTOTALS AND TOTAL	SCHOOL <-6	7-9	10-12	ALL	EXITING H.S. GRADS	AGE 65 AND ABOVE	AGE 85 AND ABOVE	TOTAL POPULATION
MALES	120	43	33	195	4	151	12	1661
FEMALES	123	43	35	201	4	172	13	1195
TOTAL	243	86	68	397	8	323	25	2856