

The Island County Board of Health was called to order at 11:15 a.m. on March 10, 1997, in the Island County Courthouse Annex, Coupeville, Wa. Board of Health members present included: Mike Shelton, Chairman, and Wm. L. McDowell, Member. Tom Shaughnessy, Member, was absent due to attending a funeral on Camano Island. Others Present: Roger Case, Health Director; Tim McDonald, Health Services Director; Joye Emmens, Environmental Health Director; Carol McNeil, Nursing Director; Linda Morris, Human Services Coordinator; Doug Kelly, Hydrogeologist; and Marshall Bronson, member Community Health Advisory Board (CHAB).

COMMUNITY HEALTH ADVISORY BOARD APPOINTMENTS AND REAPPOINTMENTS

On unanimous motion, the Board appointed Jessie Leon Lowder and Gerard "Jerry" Mohan to the Island County Community Health Advisory Board for terms ending March 8, 2000, and reappointed Holly Schoenknecht and Amy Ayers, to terms ending March 8, 2000.

OVERVIEW OF GROUND WATER FLOW MODELING

Doug Kelly set up a computer model to show the Ground Water Flow Modeling. A

handout "Overview of GW Flow Modeling" was provided as a guide during the display, which covered:

- Parameter estimation/distribution
- Parameters needed (for every node in every layer)
- Model input file structure
- Data storage and manipulation, database
- Mapping
- Build Model
- Run Flow Model

For a ground water flow model an area of the landscape is divided into cubes, and for each cube the ground water flow model will run a series of equations on how ground water will flow through that particular cube. The model needs to know for each layer in the cube the elevation, hydraulic properties , hydraulic conductivity, fresh and saltwater specific storage, porosity, thickness of the layer, initial water levels, and recharge. The model takes all of the information for every layer in the system and runs a series of equations to describe how water will flow through that stratigraphy .

The flow model Mr. Kelly is buliding will have roughly toward the magnitude of 700 pages of text generated. Well logs are submitted when a new well is drilled and Mr. Kelly has virtually all well logs since 1978; prior to that it is more hit and miss. Right now there are 3660 wells included.

Another portion of the data base is chemistry. There is a network of 40 wells that have been sampled over the last 15 years and a letter is generated automatically by the

computer sent to participants in the monitoring network. USGS codes are entered for stratigraphic material. From two dimensional CAD maps (flat) showing roads, surface water features and topographic contour lines he extracted information to enter into the data base. He wrote a program for manipulating the databases for building ground water flow models. There are five aquifers mapped by USGS and Mr. Kelly can make correlations from well to well and map the aquifer in three dimensions. Recharge information is needed which will come straight from the USGS work.

Commenting on health of Island County's water as far as sea water intrusion, Mr. Kelly thought the vast majority of intrusion problems at this point were wells put in an area that is tenuous - sinking wells in an area the most tenuous not only from the standpoint

it is the thinnest but also sees the interface moving around. The salt water interface is not a sharp line, it is a zone of diffusion and the width of that zone is dependent on how much water moves through; getting close to the shore and tides are influencing, it gets thicker and wider and the chance of hitting salt water becomes much greater. Population is linked because if more wells are put in the situation will get worse because it pulls the salt water interface further inland - every time you put a well in and pump it the interface moves some amount. Ground water flow models will identify criteria that affect recharge.

New equipment to assist him this year includes a data logger that measures pressure in a well and GPS. Mr. Kelly expects to do model every 4 to 6 months.

Meeting adjourned at 12:07 p.m. The next regular meeting of the

Board of Health is April 14, 1997, at 11:15 a.m.

BOARD OF HEALTH

ISLAND COUNTY, WASHINGTON

Mike Shelton, Chairman

Wm. L. McDowell, Member

[Absent - Tom Shaughnessy, Member]