

# Water Resources Summary

## Environmental Impact Statement

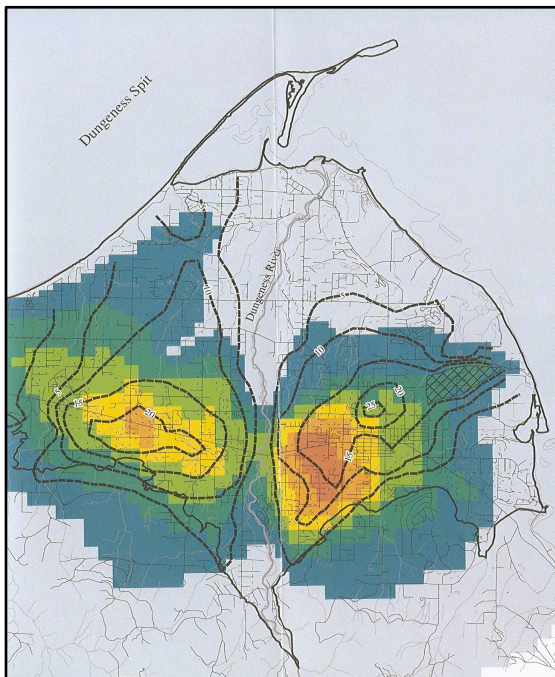
### Dungeness River Water Users Association

#### Water Conservation Plan



A regional, three-dimensional ground water model of the Sequim-Dungeness area was developed for the Dungeness River Water Users Association as a tool to analyze the impact of their Water Conservation Plan. Steady-state and transient 3-D models were developed using MODFLOW. The analysis and interpretation of model results allowed the effects of the Water Conservation Plan to be assessed with respect to:

1. Shallow aquifer water levels within the Sequim-Dungeness area
2. Instream flow in the Dungeness River, its tributaries and nearby independent creeks
3. Ground water quality
4. Ground water-surface water interaction in the Dungeness River
5. The availability of water for private and public water supply systems
6. Water rights



A critical component of this project was the communication of technical issues associated with model development and the discussion of steady state and transient model results with the Dungeness Technical Advisory Group (DTAG). The DTAG consisted of members from the Dungeness River Water Users Association, the United States Geological Survey (USGS), the Jamestown S'kallam Tribe, Clallam County, and the Washington Department of Ecology.

One challenge of this project was the integration and evaluation of multiple, sometimes conflicting, regional data sets. For example, the four well databases in existence for the study area had never been cross-referenced or checked against each other for accuracy. Conflicting well locations and land surface datum elevations were identified for numerous wells within each database. Well location conflicts and inaccuracies required timely resolution in order to effectively complete the model development and calibration.

#### PROJECT HIGHLIGHTS:

- ✓ **Communication and sustained involvement with multiple regulatory agencies and stakeholders ensured timely and cooperative project completion.**
- ✓ **Complex data evaluation included the 1) integration of four regional well databases, 2) development of a methodology to assess the impact of changing aquifer water levels on water rights and water supply, and 3) the assessment of impact to the ground water-surface water interaction of Dungeness River.**
- ✓ **Authored a detailed interpretation of model results, current issues and cumulative impacts to water resources in the Dungeness-Sequim study area.**

