Boreochem

"Chena River & Noyes Slough Contaminant -Sediment Sources"

FY03 Grant Award: $61,281.00 *Project Match: $40,854.00*

Description and Purpose:
Potential contamination and sedimentation sources of the Chena River and Noyes Slough were identified and prioritized using EPA risk assessment procedures. A geographical information system (GIS) was created to provide citizens, regulators, and environmental professionals with a management and planning tool to optimize future restoration, recovery, and data collection.

Evaluation of Environmental Benefits:
1. Risk assessment of potential contaminant and sedimentation sources of the Noyes Slough and Chena River.
2. More efficient and cost-effective targeting and allocation of resources for future sampling/analysis projects along the Noyes Slough and Chena River.
3. An environmental planning/management tool was created for future/reclamation projects.
4. An environmental collaboration tool was created for disseminating/sharing information among concerned citizens interested in the Noyes Slough and Chena River.

Deliverables for this project include:

A. Data Deliverables
a. Copy of compilation of existing historical data, photographs, interviews, land use records, septic system records, water quality data, environmental site assessments from catchment regions, existing hydrogeological data, climate, precipitation, vegetation, and other pertinent information regarding non point source pollution of the Noyes Slough and the Chena River. An objective of the project was to collect this information into one accessible document.
b. Master spreadsheet containing risk and assessment data correlated to each identified PCSS.
c. Develop a database / GIS system. As an integral part of the GIS, the database may be queried and used to run multiple 'what if' scenarios, for analysis, management, and planning purposes. Document was prepared using metadata documentation and QA/QC principles.

B. Maps
a. Copies of the 'sketch map', prepared using CAD, created to supplement geographic and hydrogeological information available on existing maps,

b. BMLC created a GIS " mapping system" which is actually "many maps in one map." The system allows the most exciting and functional transformation of " data into information" by allowing easy editing, updating, querying, data aggregating, spatial analysis, snapping to and overlaying of multiple layers, predictive modeling of large, complex data sets and other features for analysis and assessment. Map images can be manipulated by rectification, rotation, flip, magnification, overview, transparent layering, select features in one map based on features in another, and multifield labeling in order to graphically analyze relationships between spatial features and risk parameters, to create visually intuitive maps.

C. Other Deliverables:
a. Final report assigning risk priority and sensitivity analysis to project PCSS using the project-developed GIS system.
b. A final project protocol/Standard Operating Procedure (SOP) for PCSS assessment was prepared and delivered to facilitate other Alaskan PCSS assessments for nonpoint pollution analysis of Alaskan waters.
c. Community outreach: using materials and information collected for this project, BMLC prepared a photographically-illustrated booklet showing what the Noyes Slough and the Chena River have been, are currently, and MIGHT be in the future.

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