

Fording - Coal Mountain Operations Sparwood B.C. - Water Management Designs - 1997-98

# DAVE L. COOPER *P.Eng.*

## General Resume

### *Overview*

Dave Cooper has twenty five (25) years experience in water resources planning, management, design and construction in Canada and internationally. As a consultant based in Calgary over this time, his work is highlighted by services on over 30 mining resource projects, hydrologist on eight major EIA's and a Sectoral Environmental Assessment (SEA), planning through to final designs on seven major irrigation projects, four hydroelectric projects, numerous pipeline projects and river engineering design input on several river intakes, bridges, culverts, and flood control, diversion and channel enhancement works.

Dave's work experience has encompassed integrated river basin planning studies, hydrologic and drainage research, fluvial geomorphic studies, floodplain delineation studies and timber harvesting impact studies. His scope of work has ranged from project management, field reconnaissance and site monitoring, public presentations and consultation, detailed design and construction supervision, to providing external review and advice.



Suncor Energy - Wilkie Creek Culvert Replacement Incorporating Rock Drops Inside Culvert for Fish Passage, Alberta - 1998

Dave's International work experience is highlighted by a two year assignment in Egypt and one year in India on major irrigation and drainage research projects for the Canadian International Development Agency. His responsibilities involved hydrologic investigations, on-farm water management, initiating and directing survey and mapping programs and developing and implementing system water balance models and surface drainage control works. Dave was also Team Leader for a river basin planning and agricultural development study in Indonesia, River Engineer/Hydrologist for evaluation of a proposed hydroelectric project in China and Hydrologist for an SEA of the electric sector in El Salvador.

### *Project Responsibilities*

Project engineer for the design and permitting of **pipeline river crossings** throughout Western Canada for clients including CWNG, Gulf, Imperial Oil, Nova, Pembina, Bow River Pipe Lines and AEC (1978-Present).

Hydrologist/project engineer on a 5 year multi-disciplined study for the **Government of Alberta** to document costs, benefits, hydrologic and wildlife impacts and operational details regarding **on-farm water management** alternatives available to farmers in Alberta. Six demonstration farms were constructed and monitored to develop management guidelines and recommend assistance programs (1987-91).

**Fluvial geomorphic** study of the Athabasca River and operational and abandonment protection planning and design of Suncor's 100 metre high, 5 kilometer long **Tar Island Dyke** adjacent to the river near Fort McMurray, Alberta. (1992-96).

**Mine Water management** planning, hydrologic and hydraulic permitting for sediment ponds, drainage works and water supply facilities for various mine operations including Fording's Coal Mountain, Manalta's Vesta Mine, Lucar's Coal Valley, Cardinal River Coals Ltd., Elkview Coal Corporation Ltd., and Suncor's and Syncrude's Oil Sands operations.



Imperial Oil Mackenzie River Artificial islands ice scour repairs, March, 1998





Amoco - North Saskatchewan River Bank Intake, Design, Permitting and Construction - 1997

**EDUCATION**

- B.A.Sc., Civil Engineering, 1976, University of Waterloo
- Institute on River Mechanics Course, 1980, Colorado State University
- Hydraulics and Hydrology of Dam Design Course, 1981, University of Missouri-Rolla
- Hydraulics and Sediment Control Courses, 1982, University of Kentucky

**MEMBERSHIPS**

- Professional Engineer in Alberta
- Canadian Water Resources Association

**PROFESSIONAL RESPONSIBILITIES**

- Canadian Society for Civil Engineering (Calgary Chairman 1982)

**PROFESSIONAL HISTORY**

- |                              |                                 |              |
|------------------------------|---------------------------------|--------------|
| • Hydroconsult               | Vice President                  | 1997-Present |
| • AGRA Earth & Environmental | Project Manager                 | 1992-1997    |
| • W-E-R Engineering Ltd.     | Senior Project Engineer         | 1985-1992    |
| • Hydrocon Engineering       | Project Manager                 | 1979-1985    |
| • Techman Ltd.               | Junior Water Resources Engineer | 1977-1978    |



Suncor Energy Inc. - Hydrotechnical Design Input for Steepbank Mine Athabasca River Bridge - 1996-97

**PUBLICATIONS**

Sawatsky, L. F., W. J. Dick, S. Ekanayake, and D. L. Cooper. 1996. "Rainfall Simulations to Determine the Erosion Resistance of Reclaimed Sand Structures". Proceedings of 1996 Conference of Canadian Society for Civil Engineering, Edmonton.

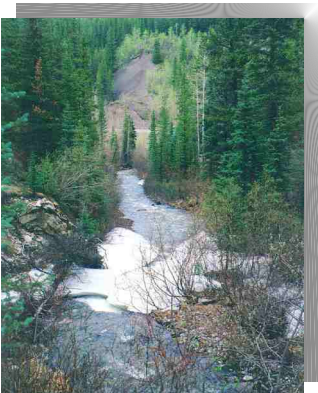
Dick W. J., L. F. Sawatsky, D. L. Cooper, M. Keys. 1996. "Design of a Rainfall Simulation to Measure Erosion of Reclaimed Surfaces". Proceedings of 1996 Conference of Canadian Society for Civil Engineering, Edmonton.

Sawatsky, L. F., D. L. Cooper and E. McRoberts. 1995. "Strategies for Reclamation of Tailings Impoundments". Canadian Dam Safety Association, Dam Safety Conference, Banff, Alberta, Canada.

Cooper, D. L., L. F. Sawatsky, and S. Soekrasno. 1995. "Optimizing Agricultural Development Through River Basin Planning - A Case Study in Sulawesi, Indonesia". AWRA Summer Symposium, Hawaii, U.S.A.

Cooper D. L., L. F. Sawatsky, C. Sugandi, and G. R. E. Beckstead. 1995. "A Rational Method for Initial Screening and Funding Flood Control Projects". AWRA Summer Symposium, Hawaii, U.S.A.

MacAlpine, N., R. D. Neilson and D. L. Cooper. 1992. "Hydrotechnical Impacts of Retaining or Draining Water on the Canadian Prairies". Sixth International Drainage Symposium, Nashville, Tennessee, December.



Cardinal River Coals Ltd., Channel Geomorphic Assessments - 1998

