



RDI Resource Design Inc

Profile

RDI is a natural resources consulting firm widely recognized as a leader in the fields of 3-D visualization, visual impact assessment, and design planning. We have been delivering sound business solutions, based on the best and most current practices, in visual landscape design and management in visually sensitive areas to renewable and non-renewable natural resource-based industries and organizations since 1996. As well as being central in developing the field of Visual Resource Management for forestry in British Columbia, we provide visual assessment and advisement services to the wind power, forestry, run-of-river power, LNG, and transmission sectors, expert testimony; education, training, and international speaking engagements.

Academic History: Ken B. Fairhurst, PhD, RPF. *Dr. Fairhurst is a professional visual resource planner and advisor, and president/owner of RDI Resource Design Inc. (RDI).*

Ph.D., 2010

Univ. Brit. Col., Faculty of Graduate Studies (Forestry)

Research and dissertation on comprehensive multi-functional landscape planning

M.Sc. Faculty of Forestry, 1980

Park and Recreation Resources

Univ. Brit. Col., Forest Resources Management

Thesis on outdoor recreation use planning in urban park settings

Professional Associations

Association of B.C. Professional Foresters

Western Forestry Contractors Association

Collaborative for Advanced Landscape Planning, Univ. Brit. Col.

Professional History

1996 ongoing	<u>Professional Consultant / President / Co-owner</u> RDI Resource Design Inc, Vancouver BC Canada Environmental Assessment / Visual Resource Planning and Management / 3-D Simulation
2014 ongoing	<u>Adjunct Professor, Department of Forest Resources Management</u> Faculty of Forestry, University of British Columbia, Canada
2014 to 2017	<u>Senior Oversight Advisor, Advisian / WorleyParsons Canada</u> Visual Resource Planning, Management and Simulation
2014 to 2015	<u>Visual Resource Management Instructor, Forestry 424</u> Visual Planning and Simulation Module, Department of Forest Resources Management Faculty of Forestry, University of British Columbia
2007 to 2010	<u>Co-Instructor, University of British Columbia</u> Forestry 491, Department of Forest Resources Management, Faculty of Forestry, University of British Columbia
1985 to 1996	<u>Visual Landscape Specialist, Vancouver Forest Region</u> British Columbia Ministry of Forests
1984 to 1985	<u>Landscape and Timber Operations Forester</u> Alberta Forest Service, Alberta Canada
1980 to 1983	<u>Visual Landscape Specialist, Vancouver Forest Region</u> British Columbia Ministry of Forests
1983 to 1983	<u>Consulting Services in Regional and Urban Forestry</u> Outdoor Recreation, and Visual Resource Management

Categories of Involvement

Accomplishments cover the complete spectrum of Environmental Assessment and Visual Resource Management Fields:

1. **Environmental/Visual Assessment**
2. **Integrated Visual Design / Total Resource Planning**
3. **Visual Resource Strategies, Practices, and Guidelines**
4. **Visual Landscape Inventory**
5. **Professional Reviews, Audits, and Investigations**
6. **Information and Technology Transfer**
7. **Research in Visual Resource Management and Planning**

The following is a selected list of both recent and historically significant accomplishments:

1. Environmental/Visual Impact Assessment

Alberta Wind Farm Assessment, 2018. Analyse and predict visual influence of a proposed windfarm installation; produce photomontages and animations of wind turbines. RDI utilizes world-leading software for wind energy project design and planning: “windPRO” to convey the public’s visual/aesthetic considerations relating to proposed wind turbine installations, in preparation of expert testimony to the Alberta Utilities Commission.

BC Timber Sales, Kamloops Business Area, 2011 to current. Contracted principal visual design and assessment expert for BCTS now in our 7th straight year, completing 12 or more VIAs each year in various areas of the BC interior. RDI was signed on in 2017 as successful bidder to provide BCTS with an additional 6 years of visual assessment to 2023. Projects involved RDI’s state-of-the-art Visual Nature Studio 3-D visual simulation, impact assessment following provincial guidelines, and expanded analysis implementing landform assessment and FREP Visual Quality Effectiveness Evaluation. RDI applies cutblock design and forest management recommendations to provide best-fit solutions to assist field layout by client personnel in meeting Provincially-mandated Visual Quality Objectives.

Interfor Corp, 1996 to current. Interfor is a repeat client since 1996. Recent projects include Visual Impact Assessments for Vancouver Island’s west coast, Sechelt Inlet, Inside Passage, and other coastal inlets and marine corridors. Projects required 3-D visual simulation, visual impact assessment following a standardized procedure, cutblock design, and provision of forest management recommendations to facilitate the meeting of Visual Quality Objectives. Projects were in many parts of coastal British Columbia. Two to three VIAs have been produced each year. RDI employs our expert capabilities in 3-D Visualization to determine best-fit solutions assisting field layout by client personnel.

Advisian - WorleyParsons Group, 2016-2017. Senior Oversight Advisor to the Visual Assessment Team providing guidance related to LNG port development in Kitimat and on Vancouver Island.

AMEC Foster Wheeler, 2015. 3-D Visual Simulation of terminal, plant, and transmission line facilities at Woodfibre, BC as a key component of the Environmental Assessment Application.

Run of River Power, 2011. 3-D Visual simulation and visual impact assessment of the independent power producers’ proposed hydro-electric developments and transmission line options (Skookum Power Project).

North West Cascade Power, 2007. 3-D Visual simulation, visual impact assessment and comparative evaluation of the proposed Pitt Power Cluster transmission line options.

BC Ministry of Highways, 2005. 3-D Visual simulation and animations of the Culliton Bridge and the South Fraser Connector route. Fixed viewpoints and aerial fly-around animation of Culliton Bridge and the Sea-to-Sky Highway 99.

Canadian Natural Resources, 2005. 3-D visual simulation and animations of landform construction, closure and re-vegetation of the proposed Horizons Oil Sands project in northern Alberta. Animations were prepared to assess the intake structures as they would be seen travelling along the river.

Suncor Energy, 2003. 3-D visual simulation and animation of the Millennium oil sands landform structures in Alberta and their reclamation over the course of 70 years.

2. Integrated Visual Design / Total Resource Planning

BC Timber Sales, Kamloops Business Area, 2013. Tshinakin Creek Integrated Visual Design examined biophysical, economic and engineering constraints and opportunities, designed comprehensive development opportunities conforming to the landscape, set schedules, and produced data to calculate long-term economic flows while meeting visual quality objectives.

BC Timber Sales, Kamloops Business Area, 2010. Foghorn Integrated Visual Design, accessing the entire operable forest, setting schedules with integrated design to meet the VQOs over time.

Houston Forest Products, 2007. Nadina Lake Integrated Visual Design Plan, produced for a mountain pine beetle affected scenic area, accessing the entire operable forest, setting schedules with design integration to meet the VQOs over time.

3. Visual Resource Strategies, Practices, and Guidelines

Interfor Corp., 2005. Produced the TFL 45 South Visual Management Strategy with proposed leniency for visual quality objectives along less-visited coastal waterways. Adopted by Interfor into the Forest Stewardship Plan and approved by the District Manager.

Alberta Cumulative Environmental Management Association, 2003. Developed the Visual Landscape System (VLS) for the oil sands region. The VLS is a comprehensive inventory, planning and design process for visual resources that offers guidance to resource development and cumulative effects to meet desired visual quality targets. The VLS was designed for the integration of forestry, mining, energy, and other types of resource planning and development.

Alberta Forestry, Lands, and Wildlife, 1984-1985. Developed the original concepts of the Visual Landscape Management Strategies in the Province of Alberta. Trained Alberta Forest Service personnel.

BC Ministry of Forests, 1980-1983; 1985-1996. Participated in the original development of the Visual Landscape Management (VLM) program in BC, and applied it in the Vancouver Forest Region as regional specialist. Provided training to Forest Service and industry personnel. Member of planning teams such as the Sea-to-Sky Local Resource Use Plan and Management Plans, and the Meares Island Planning Team.

4. Visual Landscape Inventory

Ministry of Forests, Lands and Natural Resource Operations, 2011-2014. The Visual Landscape Inventory maps the entire visible landscape as seen from travel corridors (highways, waterways, rivers and lakes), delineating visual sensitivity units, and rating unit each for existing visual condition, visual absorption capability, and visual sensitivity rating. The information is used to recommend Visual Quality Objectives to guide forest operations once established. Recent Examples are:

2013-2014 Quesnel Forest District Highway 97 and Quesnel Barkerville VLI Updates.

2012, Northeast (Peace) VLI update.

2011-2012, Okanagan-Shuswap VLI Update: Highways 97A and 97B.

2011-2012, Nechako River and Northern Lakes VLI.

5. Professional Reviews, Audits, and Investigations

Alberta Utilities Commission, 2018. Expert testimony regarding visual impact of windfarms (in preparation).

British Columbia Forest Appeals Commission, 2016. Expert testimony.

Babine Forest Products, 2015-2016. Compliance and Enforcement assessment report.

Interfor Corp., 2014-2016. Compliance and Enforcement assessment report for Opportunity to be Heard and Forest Practices Review Board.

Ministry of Forests, Lands and Natural Resource Operations, 2009. Compliance and Enforcement assessment report for Opportunity to be Heard.

Interfor Corp., 2008-2015. Peer reviews of Interfor-produced VIAs with provision of design recommendations to meet the VQOs.

6. Information and Technology Transfer

Portland State University, 2017 Tools for Visualizing Natural Resources. Guest Speaker: Visualizing to meet Visual Quality Obligations in British Columbia.

<https://ecoshare.info/projects/central-cascade-adaptive-management-partnership/workshops/2017-tools-for-visualizing-natural-resources/>

Faculty of Forestry, University of British Columbia, 2014 to 2015. Instructor, Visualization Component, Forestry 424, a comprehensive planning course for graduating students.

Faculty of Forestry, University of British Columbia, 2007 to 2008. Co-instructor of Forestry 491, Visualization and Forest Design.

Two-day training courses in Visual Nature Studio, 2008-2011. Aimed specifically at integrating advanced simulation techniques and visual design considerations for forest industry clients, such as for West Fraser Mills and Chartwell Forest Consultants in 2011, TDB Consultants in 2009, and Tyhee Forestry in 2008.

BC Institute of Technology, 2002. Designed the Visual Design training course which was adopted into the regular required curriculum by the Institute. Delivered the 2-day course to students.

BC Ministry of Forests, 2000. Developed and delivered the VIA Training Course for the Ministry's Vancouver Forest Region in 2000. Provided training to Forest Service and industry personnel.

International Conferences, 2001-2006. Presented Visual Design topics at international seminars, training sessions, and conferences in Europe, Australia, and USA.

- Portland State University, 2017 Tools for Visualizing Natural Resources (see link above).
- Co-presenter, American Society of Landscape Architects Annual Meeting, San Francisco, October 8, 2007. Visual Planning Tools and Processes: New Applications.
- Developer and presenter, Workshop on Using Visual Nature Studio (2006). IUFRO International Conference on Patterns and Processes in Forest Landscapes - Consequences of Human Management in Bari, Italy, September, 2006.
- Organizer and Moderator, Forum on Visual Resource Management and the Practitioner, International Symposium on Society and Resource Management, Vancouver, BC, 2006.
- Workshop and guest lecturer: visualization of silviculture treatments to reduce fire hazards in northern Arizona, 2001. Coconino National Forest and Northern Arizona University.
- Developer and Instructor, A practical guide for visually effective design of timber harvesting. A half-day workshop for the Western Forestry and Conservation Association, 2001. Olympia, WA.

7. Research in Visual Management and Planning

Kenneth B. Fairhurst, Ph.D., 2010. Graduate dissertation on "GEOptics Landscape Apparency: a visual resource indicator and tool for multi-functional landscape planning". The research developed a tool to simplify and improve visual management and planning processes by providing a detailed GIS output layer of quantified landscape risk, and facilitate design of operations with a greater chance of meeting Visual Quality Objectives.

The RDI website provides additional information and examples, and can be found at www.rdi3d.com



Kenneth B. Fairhurst, Ph.D., RPF
January 10, 2018