

GLEN HEARNS

CURRICULUM VITAE

ghearns@eco-logical-resolutions.com • +1-604-848-4096

1066 Dusty Road

Denman Island, BC, Canada V0R 1T0

OVERVIEW OF SKILLS

WATER RESOURCE SPECIALIST and trans-jurisdictional water management, legal and institutional arrangements, national water management frameworks, benefit sharing, climate change mitigation and adaptation methods; water supply and sanitation

STRATEGIC AND DECISION ANALYST with twenty-five years of experience specializing in multi-stakeholder structured decisions and integrated assessment

EVALUATION SPECIALIST for projects, governance regimes, and policies (member of Canadian Evaluation Society)

FACILITATION, ANALYSIS AND NEGOTIATION for legal and institutional arrangements, governance, management, and benefit sharing of resources

CONFLICT RESOLUTION AND NEGOTIATION, with over twenty-five years of experience at various governance levels with communities, local governments, First Nations, international level, and with diverse stakeholder groups

LOCAL ECONOMIC & SOCIAL DEVELOPMENT and participatory planning specialist

TRAINING SPECIALIST and curriculum development for resource policy

EDUCATION

2010

PHD IN RESOURCE MANAGEMENT, UNIVERSITY OF BRITISH COLUMBIA

Vancouver, Canada

1990 – 1992

MSC IN ENVIRONMENTAL & NATURAL RESOURCE POLICY, INTERNATIONAL INSTITUTE FOR HYDRAULIC & ENVIRONMENTAL ENGINEERING, DELFT

The Netherlands

1983 - 1988

BASC IN GEOPHYSICS, UNIVERSITY OF WATERLOO

Waterloo, Canada

LANGUAGES

ENGLISH, FLUENT

SPANISH, FLUENT

FRENCH, FLUENT

PORTUGUESE, WORKING KNOWLEDGE

SUMMARY OF PROFESSIONAL EXPERIENCE

JULY 2012 – PRESENT

PRINCIPAL, ECO-LOGICAL RESOLUTIONS

OCTOBER 2012 – FEBRUARY 2014

SENIOR TRANSBOUNDARY WATER ADVISOR, GOVERNMENT OF AFGHANISTAN

2007 – 2012

CO-DIRECTOR, GLOBAL TRANSBOUNDARY INTERNATIONAL WATER GOVERNANCE INITIATIVE, UNIVERSITY OF BRITISH COLUMBIA

2008 – 2012

SENIOR ASSOCIATE, CRM LTD.

2004 – 2008

ASSOCIATE, ECOPLAN INTERNATIONAL DECISION

2001 – 2003

WATER SPECIALIST & PROJECT COORDINATION, MÉDECINS SANS FRONTIÈRES

1993 – 2001

RESEARCH FELLOW, FACULTY OF LAW, UBC

SELECTED RECENT ASSIGNMENTS

APRIL 2021 – PRESENT

WATER SECURITY ASSESSMENT FOR LAKE CHAD, WORLD BANK

Senior consultant on a World Bank team to lead a Water Security Assessment for the Lake Chad region, incorporating elements of regional security and climate change as they relate ensuring water security for local populations. The assessment is focused on highlighting investment needs in the water sector. Partners are the Lake Chad Basin Commission and national agencies, as well as other international donors.

AUGUST 2021 – OCTOBER 2021

MIDTERM EVALUATION FOR GEF, UNITED NATIONS DEVELOPMENT PROGRAMME

Lead a team that conducted the mid-term review of the GEF Niger Basin project which sought to integrate surface and groundwater management in the Niger Basin. The review involved assessing the work of national government staff, Community Associations, NGOs, Niger Basin Authority,

Sahara and Sahel Observatory (OSS), United Nations Industrial Development Organization (UNIDO) and United Nations Educational, Scientific and Cultural Organization (UNESCO), UNDP and UNEP. 32 interviews were conducted and 3 web-based workshops with the planning team. Total Project value: US\$900 Million

OCTOBER – DECEMBER 2020

TERMINAL EVALUATION, UNDP

Haitian “Resilient Ecosystem and Vulnerable Communities to Climate Change”

Lead a team that conducted the terminal evaluation of the 4 year “Amélioration de la résilience d’écosystèmes et de communautés vulnérables aux changements climatiques et aux menaces anthropiques par une approche «des crêtes aux récifs» de la conservation de la biodiversité et de la gestion de bassins versants”. The mid-term review was conducted with a local evaluator that assisted with local interviews. Key interviews were conducted via internet due to Covid 19. Some 54 interviews were conducted with 18 web based. And 4 web-based evaluation team meetings and presentations were conducted. Reports submitted in French and English.

MARCH – SEPTEMBER 2020

TERMINAL EVALUATION, ENVIRONMENT & NATURAL RESOURCES (NWT)

Northwest Territories Water Stewardship Action Plan 2016 – 2020

Conducted the terminal evaluation of the 5-year Action Plan for the Water Stewardship Strategy of the Government of the Northwest Territories. The evaluation involved 51 interviews, 5 focal group meetings, and 3 presentations all done virtually as travel was restricted to NWT due to Covid 19. The review focused on an assessment of activities, lessons learned, & recommendations for the 2021-2025 Action Plan.

NOVEMBER 2020 – PRESENT

ADVANCING CLIMATE RESILIENCE IN THE AMAZON, INTER-AMERICAN DEVELOPMENT BANK & OCTA

Assisting the promotion and drafting of a formal Concept Note to the Green Climate Fund for developing resilience in water management in the surface and groundwaters of the Amazon Basin. The work involves consultation with eight member countries as well as the IDB and OCTA.

APRIL 2020 – PRESENT

BUSINESS PLAN FOR PORT RENFREW DOCK, PACHEEDHAT FIRST NATION

In collaboration with Beringia Planning, developing the business plan for the Port Renfrew Dock Society in preparation of the Dock Management Plan. The work involved engagement with Dock Society members (workshops and interviews) and public engagement of 43 members of the community and Patcheedhat First Nation. The business plan includes accounting for safety upgrades in the order of \$500,000.

FEBRUARY 2020 – PRESENT

PROMOTING TRANSBOUNDARY WATERS IN THE PANTANAL & AMAZON, INTER-AMERICAN DEVELOPMENT BANK, UNEP

Assisting the design and development of two Project Information documents for GEF funding in the Pantanal and Upper Paraguay Basin, and the Amazonian Aquifer. The work involved dialogue

with countries and development of action plans, budgeting, and proposal development. Pantanal information form was submitted and accepted. Amazonian Aquifer PIF is under development.

MAY 2019 – DECEMBER 2020

ASSISTANCE & TRAINING, EU AND GOVERNMENT OF AFGHANISTAN

Transboundary Waters for the Ministry of Foreign Affairs (Afghanistan)

International expert providing on-going advice and assistance to the Afghan Ministry of Foreign Affairs regarding international water relations and management. Includes facilitating meetings and conducting workshops on a variety of related topics, and support in briefing notes & papers.

AUGUST 2018 – NOVEMBER 2021

STRENGTHENING CAPACITY, WORLD BANK, MEW AFGHANISTAN, CEP TAJIKISTAN

Afghanistan for greater collaboration with Tajikistan on Hydromet, Flood Risk Management, and Early Warning Services

Developed and co-managed the World Bank support for continued dialogue and implementation of the 2014 MOU between Afghanistan and Tajikistan on hydro-meteorological data and information sharing. The work involves managing the project to ensure integration of Afghanistan into Central Asian Water and Weather Monitoring networks.

APRIL – JUNE 2019

MIDTERM REVIEW FOR DNIESTER RIVER BASIN, OSCE, UNDP, UNECE

Conducted Mid-Term Review of the GEF funded “*Enabling transboundary cooperation and integrated water resources in the Dniester River Basin*” project. Review consisted of interviews, desk review of literature, reports, and web-based materials, and an analysis of the work done since inception in Jul 2017. It also involved interviews with 25 stakeholders from international organizations, national ministries of Ukraine and Moldova, power producers, and NGOs. Project size USD 21,415,000 with co-financing. The review focused on an assessment of activities, lessons learned and recommendations for completing the project.

APRIL – MAY 2019

WORKSHOP ORGANIZATION & FACILITATION, ENVIRONMENTAL STEWARDSHIP INITIATIVE / WET’SU’WET’EN FIRST NATION / PROVINCE OF BC

Moose and Environmental Flow Needs

Organized and facilitated a workshop on moose monitoring and management in the Skeena and Omenica regions to share knowledge, develop a moose monitoring protocol for the Skeena; and a second workshop on Environmental Flow Needs to determine EFN Tier 2 monitoring protocol and restoration management tools.

MARCH – APRIL 2019

TERMINAL EVALUATION FOR EPTS, CONSERVATION INTERNATIONAL, WORLD WILDLIFE FUND

Conducted the terminal evaluation of the GEF funded “Improving mangrove conservation across the Eastern Tropical Pacific Seascape (ETPS)” project. The review consisted of interviews, site visits, desk review of literature, reports, and web-based materials, and an analysis of the work done since inception since September 2016. It involved interviews with 28 stakeholders from international organizations, ministries of Ecuador, Colombia, Costa Rica, and Panama, local

communities, and NGOs. Project size USD 6,417,000 with co-financing. The review focused on an assessment of relevance, effectiveness, and efficiency of activities, lessons learned and recommendations for future projects.

FEBRUARY – MAY 2019

TERMINAL EVALUATION FOR EMBLAS II, UNDP

Conducted the Mid-Term Review of the EU funded (USD 3.6M) “*Improving environmental monitoring in the Black Sea II*” project. The evaluation consisted of interviews, desk review of literature and reports, and an analysis of the work done. It involved interviews with stakeholders from UNDP, ministry staff on the Ukraine, and private consultants. The report involves developing recommendations for the subsequent EMBLAS Plus+ project.

FEBRUARY – APRIL 2019

MIDTERM REVIEW FOR DRINI RIVER BASIN, GWP-MED, UNDP-ALBANIA, UNDP-KOSOVO

Conducted the Mid-Term Review of the GEF funded “Enabling transboundary cooperation and integrated water resources in the White Drin and extended Drin Basin” project. The review consisted of interviews, desk review of literature, reports, and web-based materials, and an analysis of the work done since inception since August 2015. It involved interviews with 27 stakeholders from international organizations, ministries of Albania, Kosovo, Macedonia, and Montenegro, municipalities, power producers, academia, and NGOs. Project size USD 226,427,000 with co-financing. The review focused on an assessment of activities, lessons learned and recommendations for completing the project.

AUGUST – DECEMBER 2018

RIVER BASIN ORGANIZATION REVIEW FOR MEKONG DELTA, WORLD BANK, MINISTRY OF PLANNING

Conducted a review of River basin organizations with a focus on North America to the development of procedures for a potential river basin organization in the lower Mekong River Delta in Vietnam. This included interviews, desk reviews and assessments, participating in a Vietnamese workshop, and developing key recommendations.
Vietnam

APRIL – JULY 2018

MIDTERM REVIEW FOR IW:LEARN (4) & LME LEARN, IOC, UNDP, UNEP, GEF

Conducted the Mid-Term Review of the joint IW:LEARN and LME:LEARN projects to assess and evaluate the projects in terms of relevance and effectiveness (USD 22M). It included development of 15 recommendations for ensuring a successful completion of both projects and beyond. The evaluation involved interviews and discussions with 17 partner organizations and over 40 project managers and professionals. The review took 4 months to complete and included development of a website where agencies and partners could monitor the on-going progress of the review.

FEBRUARY – MARCH 2018

FACILITATION & STRATEGIC PLANNING FOR SALMON ENHANCEMENT, OCEANS CANADA

Developed and delivered a multi-day workshop for the Salmon Enhancement Program to review and advance their activities to meet Ocean Canada’s objectives for the Pacific Region. Workshop

and associated interviews were formatted on strategic planning principles and promoted integrating a structured approach to decision making within the program.

OCTOBER 2017 – JANUARY 2018

FACILITATION, FLNRORD & SKEENA SUSTAINABILITY ASSESSMENT FORUM

Co-monitoring networks between the Province of British Columbia and First Nations of the Skeena Region

Designed, facilitated, and reported on expert workshops for Science and Technical Committee of the Environmental Sustainability Initiative for Skeena Region. Under the initiative, four workshops were held to develop conceptual models, identify appropriate indicators & associated protocols, and outline governance structures for the monitoring and assessment of Moose, Fish Habitat, Wetlands, and Medicinal Plants. Workshops were multi-day events and were attended by First Nations elders and technical staff, Provincial and Federal experts, and by selected consultants.

SEPTEMBER 2015 – DECEMBER 2017

TRAINING & CAPACITY BUILDING, WORLD BANK

Negotiation for Government of Afghanistan

Designed and lead the capacity building programme for the Government of Afghanistan to engage in regional dialogue over transboundary water resources in consultation with local ministries. Work includes building understanding of international law, communications, conflict resolution, IWRM, negotiation and benefit sharing mechanisms. The work involves developing an inter-ministerial technical team from people in Ministry of Energy and Water, Foreign Affairs, Agriculture Irrigation and Land, Finance, and the National Environmental Protection Agency. The training, while focused on water, cross cuts issues of climate change and adaptation with respect to water, energy, and food production. The program has delivered 19 workshops in Afghanistan totaling 150 hours of class time and involved 46 participants.

OCTOBER 2012 – FEBRUARY 2014

SENIOR TRANSBOUNDARY WATER ADVISOR FOR GOVERNMENT OF AFGHANISTAN, IRD, GIROA, USAID

Acted as **Senior Advisor** to the Government of Afghanistan on its transboundary water resources. Conducted training and mentoring for senior government officials regarding international law and negotiation of transboundary water focusing on benefit sharing and regional management. Training included weeklong seminar/workshops with training and presentation material. Mentoring included weekly meetings with selected senior officials to review issues pertaining to international law and water management of Afghan's transboundary water resources. Facilitated the drafting of a Draft National Transboundary Water Policy for Afghanistan, and development of basin strategies/approaches for the Amu Darya-Panj, Hari-Rud, Helmand, and Kabul basins.

OCTOBER 2017 – JANUARY 2018

CLIMATE AGRICULTURAL DRAINAGE FORUM, CLIMATE ACTION INITIATIVE, BC FOOD AND AGRICULTURE

Designed and facilitated research and a stakeholder forum on assessing drainage options from agricultural areas based on forecasted climate change predictions. Options included institutional reforms as well as infrastructure development and Beneficial Management Practices.

OCTOBER 2016 – AUGUST 2017

OPPORTUNITIES & CHALLENGES IN AFGHANISTAN'S TRANSBOUNDARY WATER, DURAN RESEARCH & ANALYSIS

Designed and guided Afghan researchers conducting work on the Amu and Kabul River basins. Edited the final reports and publications.

<http://duran.af/wp-content/uploads/2017/11/Amu-English-Book.pdf>

Kabul, Afghanistan

OCTOBER 2014 – OCTOBER 2016

TRAINING WORKSHOP SERIES & ADVICE, MINISTRY OF ENERGY & MINES

Benefit Sharing in International Waters

Designed and delivered a series of workshops for senior decision makers in government and BC Hydro to increase their understanding of benefit sharing possibilities in the Columbia River basin in relation to discussions with the US. The workshops included experiences from around the world with particular emphasis on examples from the US and Europe.

British Columbia, Canada

SEPTEMBER – OCTOBER 2016

UNDERGRADUATE COURSE: INTERNATIONAL AID & DEVELOPMENT, QUEST UNIVERSITY

Developing and teaching an undergraduate course in international aid and development. Included 56 hrs of in class teaching time over a month, office time, advising on course papers, marking, etc. The course used different learning techniques including academic literature, internet sources, news sources, and social media.

Squamish, Canada

FEBRUARY – JUNE 2015

COMMUNITY NEEDS ASSESSMENT & SOCIAL IMPACT, GINOOGAMING FIRST NATIONS

Designed and conducted the Community Needs Assessment and Social Impact Assessment, including an extensive community engagement process and strategic development of priority action plan. The studies were in relation to mining interests in traditional territories and potential effects and opportunities for the First Nation.

APRIL 2015 – SEPTEMBER 2016

WATER GOVERNANCE INDICATORS & WATER SECURITY, WORLD WILDLIFE FUND

Researched indicators for water governance on international to local levels and designed an initial evaluation / report card framework for analysis. Wrote a chapter for a publication on water security in Afghanistan and its effect on the United States.

JANUARY – MARCH 2015

WORKSHOPS FOR EXAMINING CUMULATIVE EFFECTS, MINISTRY OF FORESTS & NATURAL RESOURCE OPERATIONS

Organized and facilitated three 2-day workshops for government and experts to develop assessment procedures for risk evaluation with respect to cumulative effects. Workshops were on *Grizzly Bears, Old Forest Objectives* and *Aquatic Ecosystems*. Work included preparation of documents & agenda with process & technical leads as well as overall facilitation of workshops.

NOVEMBER – DECEMBER 2014

REPORT ON BENEFIT SHARING IN US WATER COMPACTS, MINISTRY OF ENERGY & MINES

Northwest Territories Water Stewardship Action Plan 2016 – 2020

Research and report written on US Compacts concerning flood control, water allocation, hydro-power, and environmental protection as they related to benefit and cost sharing between jurisdictions.

British Columbia, Canada

MAY – JUNE 2014

WORKSHOP AFGHANISTAN – PAKISTAN KUNAR RIVER DEVELOPMENT, WORLD BANK

Lead facilitator and organizer for 3-day workshop with senior Afghan government officials on the potential joint development of the Kunar River with Pakistan. This involved research, presentations, and facilitation of discussions.

SEPTEMBER 2012 – NOVEMBER 2013

REPORT ON ENVIRONMENTAL IMPACTS OF COLUMBIA RIVER TREATY FOR FUTURE TREATY DEVELOPMENT, MINISTRY OF ENERGY & MINES, PROVINCE OF BC

Primary author of the Columbia River Treaty Environmental Discussion Paper to examine environmental impacts associated with the Columbia River Treaty and the potential for treaty continuation or termination in 2024. Consultation was conducted with BC Hydro, the Province of British Columbia, and key experts.

http://blog.gov.bc.ca/columbiarivertreaty/files/2012/11/CRT-Environmental-Discussion-Paper_-_Revised1.pdf

2008 – 2012

GOOD PRACTICES & PORTFOLIO LEARNING, UNDP, GEF

GEF Transboundary Freshwater & Marine Legal & Institutional Frameworks, USD 2.2M

Co-Director: Provide technical analysis for assessing and evaluating legal and institutional arrangements in large marine ecosystems (LME), groundwater, and surface freshwater management to develop key indicators of good governance across the systems. The project assessed over 30 resource management projects. The project developed and maintained networks of South colleagues and practitioners to dialogue regarding key lessons learned, as well as training tools for institutional capacity building over the collaborative governance of shared resources. Activities include evaluation and analysis on beneficial practices to promote cooperation in shared transboundary waters and legal frameworks for implementing cooperation; analysis of institutional arrangements and functionality; facilitating dialogue and four conferences on transboundary waters; interviewing and consulting with practitioners; developing learning tools for negotiation and simulation models; project design and budgeting.

Manual available at <http://governance-iwlearn.org/?s=training+manual>

2008 – 2012

CAPILANO & SEYMOUR WATER USE PLANNING, METRO VANCOUVER

Consultant: Responsible for assisting the Greater Vancouver Water District to undertake a water use plan for the Capilano and Seymour reservoirs. Assisting facilitation and deliberations of the multi-stakeholder consultative committee, involving First Nations to assess the best use of water resources in the watersheds.

2008 – 2012

ADAPTIVE AQUIFER MANAGEMENT & WATER CONSERVATION STRATEGY, CITY OF MERRITT

Lead Consultant: Responsible for developing a multi-objective adaptive strategy for source water (aquifer development) and water conservation (Demand Side Management) for an integrated strategy for water management of the City of Merritt.

2012

REPORT OF FIRST NATIONS INTERESTS IN THE COLUMBIA RIVER TREATY, MINISTRY OF ENERGY & MINES

Lead Consultant: Researched literature, conducted interviews and wrote a report detailing the First Nations interests in water management as they pertained to the Columbia Treaty for the Provincial Review Team.

British Columbia, Canada

2011

MID-TERM EVALUATION, UNOPS, GEF, UNDP

The Caribbean Large Marine Ecosystem (CLME)

Lead Consultant: Conducted the Mid-term evaluation for the CLME project (USD\$ 52M) to develop recommendations for SAP development and refinement of institutional arrangements and partnerships for the collaborative management of biodiversity and fisheries resources. The analysis included assessment of the agreements in place, project documentation and extensive interviews with a variety of stakeholders and project partners.

2011

ASSESSMENT OF INSTITUTIONAL ARRANGEMENTS FOR IMPLEMENTING IWLEARN 3, GEF, UNEP, UNDP – IWLEARN

Lead Consultant: Developed key recommendations for institutional partners for IW LEARN3's "regional partners for learning" communication platform. Work involved developing agreed upon criteria for analysis of different institutions in Africa, the Americas, and Asia; interviews with UNDP/UNEP and GEF practitioners; interviews with institutions; and multi-attribute analysis.

2010 – 2011

STRATEGIC PLANNING FOR FISH & WILDLIFE COMPENSATION PROGRAM STRATEGIES, BC HYDRO

Consultant: Developed 42 watershed strategic plans for BC Hydro for funding priorities for fish and wildlife under the FWCP program. The development of plans included conducting interviews and workshops with local communities, First Nations, and agency staff.

2010

FINAL EVALUATION, UNEP, GEF

Development & Implementation of Mechanisms to Disseminate Lessons Learned & Best Practices in Integrated Transboundary Water Resources Management in Latin America (Delta America)

Lead Consultant: Conducted the final evaluation for the DELTA America project (UNEP/GEF Project GF/1020-03-01) (USD\$2.5M). The evaluation included a review of all project

documentation, financial planning and accounting, monitoring and evaluation mechanisms, analysis of framework logic, and correspondence. The evaluation also included interviews with both project proponents and stakeholders in Washington, Argentina, Brazil and Uruguay.

<http://iwlearn.net/iw-projects/1426>

2009

WORKSHOP, MINISTRY OF ENVIRONMENT

Setting Priorities for Grizzly Bear Management – Decision Analysis

Lead consultant: Facilitated a workshop and developed tools to explore objectives and tradeoffs associated with priorities around grizzly bear management in the Province of British Columbia.

2009

TERMINAL EVALUATION MANAGING HYDROLOGICAL RISKS IN THE ILLUMENDEN AQUIFER SYSTEM, UNEP, GEF

Lead Consultant: Conducted the final evaluation for the IAS project to develop an MOU for the collaborative management of the Illumenden aquifer system (UNEP/GEF/1030-03-06) (USD\$2.6M). The evaluation included a review of all project documentation, financial planning and accounting, monitoring and evaluation mechanisms, analysis of framework logic, and correspondence. The evaluation also included interviews with both project proponents and local stakeholders in Niger, Mali, and Nigeria (<http://iwlearn.net/iw-projects/2041>)

2009

DEVELOPING ENVIRONMENTAL RESOURCE OBJECTIVES FOR THE LOWER PEACE RIVER – RESOURCE ANALYSIS, MINISTRY OF ENVIRONMENT

Lead Consultant: Developed a hierarchy of management priorities for the MOE in the Lower Peace River with respect to Site C dam and resource development. The project integrated Provincial priorities through the Conservation Framework with local First Nations and community interests and concerns.

2008

COLLABORATIVE STEWARDSHIP – FISH & WILDLIFE, KTUNAXA FIRST NATION LAND RESOURCE AGENCY

Lead Consultant: Responsible for developing a program to promote collaborative stewardship of fish & wildlife between the Ktunaxa and the Province of BC, and the Government of Canada. The program developed short and medium-term goals to increase Ktunaxa involvement in fish and wildlife management and promote collaborative stewardship. Conducted an extensive review of collaborative management literature, conducted interviews, and facilitated workshops and meetings.

2008

AQUIFER MANAGEMENT, UN HABITAT & SEDASOL

Lead Consultant: Responsible for developing and delivering a stakeholder process for highlighting action areas in the management of a near surface aquifer accessed by the municipalities of Torreon, Gomez Palacio, Laredo, and Matamoros, with combined population of 1 million people. *Torreon, Mexico*

2007 – 2008

TRAINING & MANUAL FOR STRUCTURED FOR RURAL CARE IN BC, NORTHERN HEALTH

Associate Consultant: Constructed a decision tool for Northern Health to determine care level and strategic options for maternity care in northern BC. The work involved interviews with different stakeholders including, caregivers, local community members, First Nations, Northern Health administration. Objective of the decision tool was to assist management in making complex decisions regarding the level of health care that can be provided in rural British Columbia.

2007 – 2008

BRITISH COLUMBIA – ALBERTA TRANSBOUNDARY WATERS, BC MINISTRY OF ENVIRONMENT

Consultant: Assisting the facilitation of a dialogue group at the provincial level with respect to managing transboundary waters between British Columbia and Alberta. All aspects of transboundary surface and ground-waters are being evaluated and discussed with respect to cooperation in management of water quality, quantity, and ecological integrity. Key elements involve research and analysis of technical problems and their administrative solutions.

2007

WATER SERVICES STRATEGIES FOR MEDIUM SIZED CITIES, UNDP

Lead Consultant: Primary consultant assisting local Egyptian teams to analyze and determine strategies for water services and local economic development in medium sized cities in Egypt. As water is a key element to development success in Egypt, the project involved training local teams in the field to conduct a participatory process for determining strategies for water provision in relations to local economic development. Over four years, the project is to develop development programs for 40 medium sized cities.

Egypt

2007

NILE BASIN INFORMATION EXCHANGE AGREEMENT – REGIONAL, WORLD BANK

Project Consultant: Responsible for reviewing regional water and energy conditions and developing a strategy for conflict avoidance through institutional arrangements, namely the establishment of a Central Asian Water and Energy Commission.

2006 – 2007

STRATEGIC PLANNING FOR RESOURCE & ECONOMIC DEVELOPMENT, UN HABITAT, ESTADO DE VERACRUZ

Lead consultant, designer and facilitator for participative processes for municipal strategies for planning in Xalapa, Pozo Rico, Veracruz, Cordoba-Orizaba, and Coatzacoalcos in Veracruz State, Mexico. Key responsibilities were designing high-level stakeholder engagement processes incorporating decision analysis techniques for prioritization of actions with respect to water supply and sanitation, municipal waste, and demand-management energy issues.

Veracruz, Mexico

2006

WORKSHOP & TRAINING FOR NILE BASIN NEGOTIATION & DECISION-MAKING, UN FAO

Consultant in designing and delivering training workshops for forty negotiators and diplomats in the Nile Basin regarding decision-making for cooperative use of water resources. Key elements of the project were developing simulation tools to ‘replicate’ primary interests of basin states and conduct exercises to employ structured decision-making techniques and analytical tools.

Burundi

2004 – 2008

CITY STRATEGIC ECONOMIC DEVELOPMENT PLANNING

Strategy Planning & Local Economic & Resource Development

Lead Consultant: Developed and implemented public participation strategies and training for developing programs stimulating local socio-economic development. Programs involved strategic planning, participatory approaches, decision-making and action prioritization, institutional and governance analysis. Programs were primarily focused on poverty alleviation actions incorporating environmental, social, and economic determinants. Strategic policies included water resource, waste policies, energy assessment, green space conservation, municipal services, economic incentive creation, public-private partnerships, developing economic enabling environments, governance, and institutional reform, amongst others.

Municipalities included:

- **Matamoros, México** – UN-HABITAT Regional Office for Latin America and the Caribbean (Brazil) and SEDSOL
- **San Jose, Costa Rica** – Municipality of San Jose and UN-HABITAT Regional Office for Latin America and the Caribbean (Brazil)
- **Dar es Salam, Tanzania** – Municipality of Dar es Salam and Sustainable Cities Initiative, Industry Canada
- **Valparaiso and Vina del Mar, Chile** – SERCOTEC and Sustainable Cities Initiative, Industry Canada
- **Iloilo, Philippines** – Municipality of Iloilo and the Canadian Urban Institute
- **Quito, Ecuador** – Municipality of Quito and UNHABITAT

2005

MULTI-CITY STRATEGIC PLANNING CONFERENCE FOR LED, UN-HABITAT, GTZ

LED, Strategy Planning, Decision Making

Lead Consultant: Working with UN-HABITAT to deliver a three-day training event to on strategic planning for LED, including decision analysis and stakeholder engagement. Over 30 municipal officials from 7 different countries participated in the event in conjunction with a larger regional conference on LED and Latin America.

Quito, Ecuador

PUBLICATIONS

Taylor Henshaw, Richard Kyle Paisley, & Glen Hearns, (2021). **Building Climate Change and Ecosystem-Based Function Considerations into a Modernized Columbia River Treaty: A Commentary**, 57 Idaho L. Rev. 151 <https://www.uidaho.edu/law/law-review/nrel-edition>

Rezaee, D., G. Hearns and C. Leb (2020) **Managing Blue Gold: A Comparative Study of Islamic Law and International Water Law**, Journal of Water Law, 27 (4), 149-159

G. Hearns (2017) **Transboundary Cooperation: Water as a Unifying Factor**. In Afghanistan Transboundary Water: Perspectives on International Law and Development. (Eds D. Rezaee, J.F. Shroder, S.J. Ahmadzai, G. Hearns, N.R. Sabory and M. Danish (2017)) J. of Afghanistan Water Studies, 1 (2017) 1: 59-79

Hearns (2018) **Columbia River Case Study in “Promoting Development in Shared River Basins: Case Studies from International Experience”**. World Bank, Washington, DC. © World Bank <https://openknowledge.worldbank.org/handle/10986/29449>

Hassani, S. (2017) **A Review of Current and Possible Future Relations in the Amu River Basin**. G. Hearns (Ed.), Opportunities and Challenges with Afghanistan’s Transboundary Waters. Duran Research and Analysis. duran.af/wp-content/uploads/2017/11/Amu-English-Book.pdf

Malayar, I. (2017) **A Review of Current and Possible Future Relations in the Kabul River Basin**. G. Hearns (Ed.), Opportunities and Challenges with Afghanistan’s Transboundary Waters. Duran Research and Analysis. duran.af/wp-content/uploads/2017/11/Kabul-English-Book.pdf

Hearns, G. (2017). **Dammed If You Do and Damned If You Don't: Afghanistan's Water Woes**. In D. Reed (Ed.), Water, Security and U.S. Foreign Policy (pp. 188-204). New York and London: Routledge Taylor and Francis Group.

Hearns G, R. Paisley and T. Henshaw (2014) **Getting what you need: Designing Institutional Architecture for Effective Governance of International Waters**, Environmental Development, Vol 11 (July) 98:111 <https://www.sciencedirect.com/science/article/pii/S2211464514000438>

Hearns (2013) **Report on Environmental Impacts of Columbia River Treaty for future treaty development**, Province of British Columbia, http://blog.gov.bc.ca/columbiarivertreaty/files/2012/11/CRT-Environmental-Discussion-Paper_-Revised1.pdf

Hearns, G. and R. Paisley (2012), **Lawyers Write Treaties, Engineers Build Dikes, Gods of Weather Ignore Both: Making Transboundary International Waters Agreements Relevant, Flexible and Resilient in a Time of Global Climate Change**. Golden Gate Univ. Environmental Law Journal 6, 259.

Hearns, G., M. Klein, W. Trousdale, C. Ulrich, D. Butcher, C Meiwald, R. Lindstrom, S Eftekhary, J. Rosinski, O. Ramírez and A. Procyk (2009) **Development of a support tool for complex decision making in the provision of rural maternity care**, Healthcare Policy, 5(3) 2010: 82-96.

Hearns (2008) **The Columbia River Treaty: A Synopsis of Structure, Content, and Operations**. Prepared for the Canadian Columbia River Forum, 15 September 2008.

Hearns, G (2007) **Mahakali Treaty: Looking through a new lens at water resource development**, in F. Rotberg and A. Swain (eds) Natural Resources Security in South Asia: Nepal’s Water, Institute for Security and Development Policy, University of Uppsala, Sweden (October 2007)

Paisley, R., Hearns, G., 2006. **Some observations from recent experiences with the governance of international drainage basins**. In: Correa, A., Eckstein, G, Proceedings of the Symposium-

precious, Worthless, or Incalculable: The Value and Ethic of Water. Center for Water Law & Policy and International Center for Arid and Semi-Arid Land Studies. Texas Tech University

Hearns, G (2003) **'Monsters of the Forest: Fighting Ebola in the Congo'**, Médecins Sans Frontières Dispatches, Spring.

Hearns, G. (2000) **'Intangible Fences: Intellectual Property Rights over Genetic Resources for Food and Agriculture'**, in C. Schofield et al. (ed) Permeable Borders and Boundaries in a Globalizing World: New Opportunities or Old Problems? International Environmental Law and Policy Series, Graham & Trotman/Martinus Nijhoff.

Hearns, G. (1999) **'Genetic Resources: Law and Morality'** in Proceedings of SOS AMAZONAS Symposium, FUNDES; Tomas Cipriano de Mosquera, Bogota November 16-20, 1999.

Hearns, G. (1998) **'Collective Action for the Protection of the Marine Environment: Experiences from the Baltic and Mediterranean Seas'** in Maritime Co-operation in the Asia Pacific, AUS-CSCAP.

Hearns, G. (1997) **'Transboundary Protected Area Coordination: Experiences in Central America and Opportunities in the South China Sea.'** in G. Blake et al. (ed.) International Boundaries & Environmental Security: Frameworks for Regional Co-operation, International Environmental Law and Policy Series, Graham & Trotman/Martinus Nijhoff.

Hearns, G. and Stormont, W. (1996). **Managing Potential Conflicts in the South China Sea**, Marine Policy, Vol. 20. No. 2. pp. 177-181.

Hearns, G. and Tyedmers, P. (1995). **Poseidon's Trident: Biological Diversity Preservation, Resource Conservation and Conflict Avoidance in the South Chins Sea**, in G. Blake et al. (ed.) The Peaceful Management of Transboundary Resources, International Environmental Law and Policy Series, Graham & Trotman/Martinus Nijhoff.

Amezaga, J. and Hearns, G. (1991). **Chemical Time Bombs in the Mediterranean**. Mondial Alternative, Periodic Publications Series. Amsterdam. Autumn 1991.