

"Dedicated to creative, responsive, quality solutions for those we serve."

An Integrated Approach to Water Resources Planning

Carollo's Integrated Water Resources (IWR) Group provides our clients with the combined expertise of a talented group of civil, environmental and chemical engineers and scientists, economists, decision analysts, and public involvement experts.

Our services include watershed and water resources planning, storm water and urban wet weather planning, permitting and regulatory assistance, computer modeling, strategic master planning, reuse studies, decision support analysis, asset management and financial assistance.

We offer the most up-to-date information to support our clients in making decisions by tracking emerging science, policy and regulatory issues. These issues include the latest in regulatory and management trends such as total maximum daily loads (TMDLs), cMOM, water quality trading and exotic and emerging pollutants of concern.

In order to address the many public and private stakeholder interests involved with an integrated watershed approach, our IWR Group incorporates applied decision analysis and specific tools/techniques for consensus building. Our decision support services and public involvement techniques begin with developing the overall project vision, goals and objectives and continues throughout the project.

By integrating our knowledge of science-based watershed and water quality research with our business-based decision and stakeholder consensus building techniques, we provide our clients with comprehensive watershed solutions. This translates into direct benefits such as improving water quality, reducing wastewater and water treatment costs, mitigating future regulatory uncertainty, and maximizing grant-funding opportunities for innovative approaches to water quality management.

Services provided by our IWR Group include:

Watershed and Water Resources Planning

We provide clients with an integrated approach to watershed and water resources planning in order to develop comprehensive and cost effective solutions that meet the demands of our communities. Our expertise includes watershed assessments, development of monitoring programs, source identification, water quality studies, Use Attainability Analyses (UAAs) and water quality and watershed modeling.



An integrated approach to water quality solutions involves addressing both point and non-point sources of pollution.

Storm Water/Urban Wet Weather Planning

We provide storm water engineering services related to master planning, flood studies, water quality storm water utility development, and CSOs and SSOs. We have successfully applied a variety of GIS tools and storm water models to help public utilities address planned growth. We are experienced in implementing storm water BMPs and low impact development (LID) practices to meet EPA Phase I and II requirements.

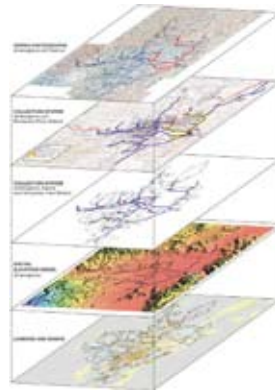
Water Reuse Planning and Implementation

Carollo's services include preparation of recycled water facility plans, conducting water market assessments, water recycling facility design, irrigation studies, economic analyses, and regulatory assistance. Our experience with water reuse planning includes a variety of uses, including landscape, golf course, and agricultural irrigation, industrial reuse, and ground-water recharge.

Strategic Master Planning/Asset Management

Carollo's strategic master planning involves fully integrating technical, organizational, financial, regulatory, and institutional issues to develop cost-effective, long-term alternatives and solutions by identifying key linkages and synergistic opportunities. Our Master Plan Manager (MPM) helps evaluate potential treatment and discharge scenarios in order to identify the optimum mix of structural and non-structural management options.

Our asset management process involves the integrated optimization of management and business practices which are reflected in acquisition, planning, operations, maintenance, refurbishment and replacement decisions. Our Water/Wastewater Asset Manager (WAM) software addresses GASB 34 requirements. Our approach links asset management with strategic master planning to develop comprehensive capital improvement programs.



Our modeling tools and GIS are customized to your project needs.

Financial and Economic Services

We provide financial planning services which include revenue program analyses, analyses of cash flow and reserve levels for capital improvement programs (CIP), rates and fees studies, bond issuance support including bond engineering reports, and identification and procurement of funding sources. Our Financial Planning Tool (FPT) allows agencies to examine in detail their 20-year financial picture and to explore “what if” scenarios.

Total Maximum Daily Loads Development and Water Quality Trading

Carollo is an industry leader in navigating the Total Maximum Daily Load (TMDL) and water quality trading process. Our expertise includes supporting the development or revision of TMDLs, water quality monitoring, identification of potential impacts, permitting assistance, and regulatory negotiations. We work with our clients to meet their waste load allocations through both structural and nonstructural alternatives and implementation of water quality trading programs.

Emerging Science, Policy and Regulatory Tracking Services

At the forefront of environmental science, policy, and regulations, Carollo is able to meet our client’s planning and regulatory needs and foresee future water quality and quantity demands. Our experience includes addressing issues such as endocrine disruptor compounds (EDCs), effluent dominated waters (EDW), heavy metals, and trace organics.

Permitting and Compliance Assistance

Carollo’s “hands-on” permitting strategy involves working closely with regulators and stakeholders to negotiate favorable NPDES permit conditions and to resolve complex permitting issues. We have established working relationships with key decision makers at local, state and federal levels including the US EPA, USFWS, NMFS, and other regulatory and resource agencies.

Computer Modeling Applications

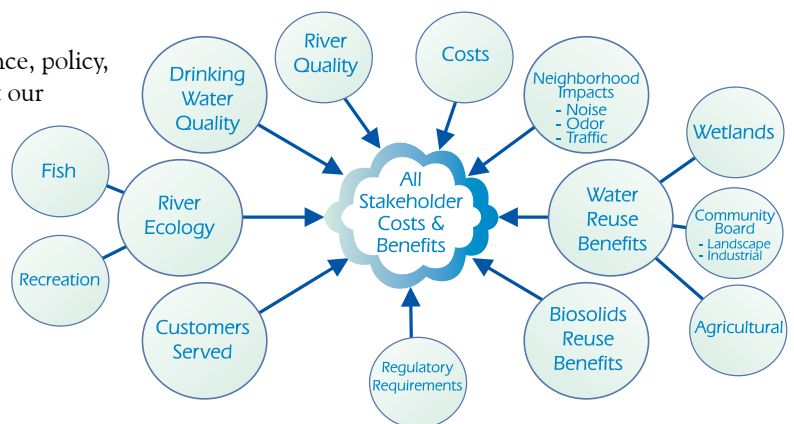
We utilize a “tool box” of modeling tools to ensure that the selected computer modeling applications are customized to our client and project needs. We have extensive capabilities using GIS modeling, as well as water quality and quantity, watershed, storm water collection system, water conveyance, and master plan modeling.

Public/Stakeholder Involvement and Facilitation

Our public outreach approach helps our clients find a better solution and achieve the level of public acceptance necessary to successfully complete a project. Our public involvement methods include mailings, flyers, workshops, small group meetings, and project websites.

Decision Support Services

Utilizing progressive applied decision support analysis techniques, Carollo helps clients evaluate alternatives and develop recommendations using a proven decision making process. With our approach, clients are provided with techniques to identify project priorities, develop independent ranking methodologies, and assess the cost/benefits of selected scenarios.



Our stakeholder facilitation and decision support services bring stakeholders and issues to the table during the project development resulting in publicly accepted projects.