

The Business Case For Integrated Resource Management

Increased environmental expectations, the prospects of a warmer, drier climate, and ever-increasing demands associated with a growing population underscore the critical interconnectivity between California's natural resources. The current drought and its impacts on fisheries above, within and below the San Joaquin-San Francisco Bay Delta and consequently, water supply reliability for the entire state, fully demonstrates how essential it is to design and implement projects with potential environmental impacts and benefits in a coordinated, systematic manner.

California is renowned for its movie stars, beaches and its labyrinth of regulatory requirements. We are the home of CEQA and AB 32, ancient salmon runs and centuries-old water-rights struggles, one of the world's largest saltwater estuaries and its most revered trees. Even when extensive research shows investment in ecologic restoration can provide significant environmental benefit and economic returns, California's regulatory approaches discourage innovative thinking, and limited such investment actually occurs.

One major hurdle is an outdated regulatory structure that tends to treat resources in isolation from one another rather than as interconnected and interdependent. The limits inherent in this resource perspective are exacerbated by numerous state and federal regulatory agencies that have overlapping jurisdictions and more often than not, act in isolation from one another. Consequently, limited private

(and agency) resources are spent responding to conflict resolution created by a convoluted regulatory atmosphere rather than designing innovative performance-based strategies. Doing business in California can mean spending inordinate resources on resolving conflicting regulations and legal challenges at the eleventh hour.

Resource management and business strategies in the 21st century both require a new approach, one that recognizes the interrelated nature of resources, encourages projects that enhance ecosystem sustainability, and rewards innovative partnerships with greater management flexibility, efficiency and autonomy. Developing integrated strategies to systematically manage ecological resources, including water, air, soil, wildlife, fisheries and forests, can enhance ecosystem restoration, and:

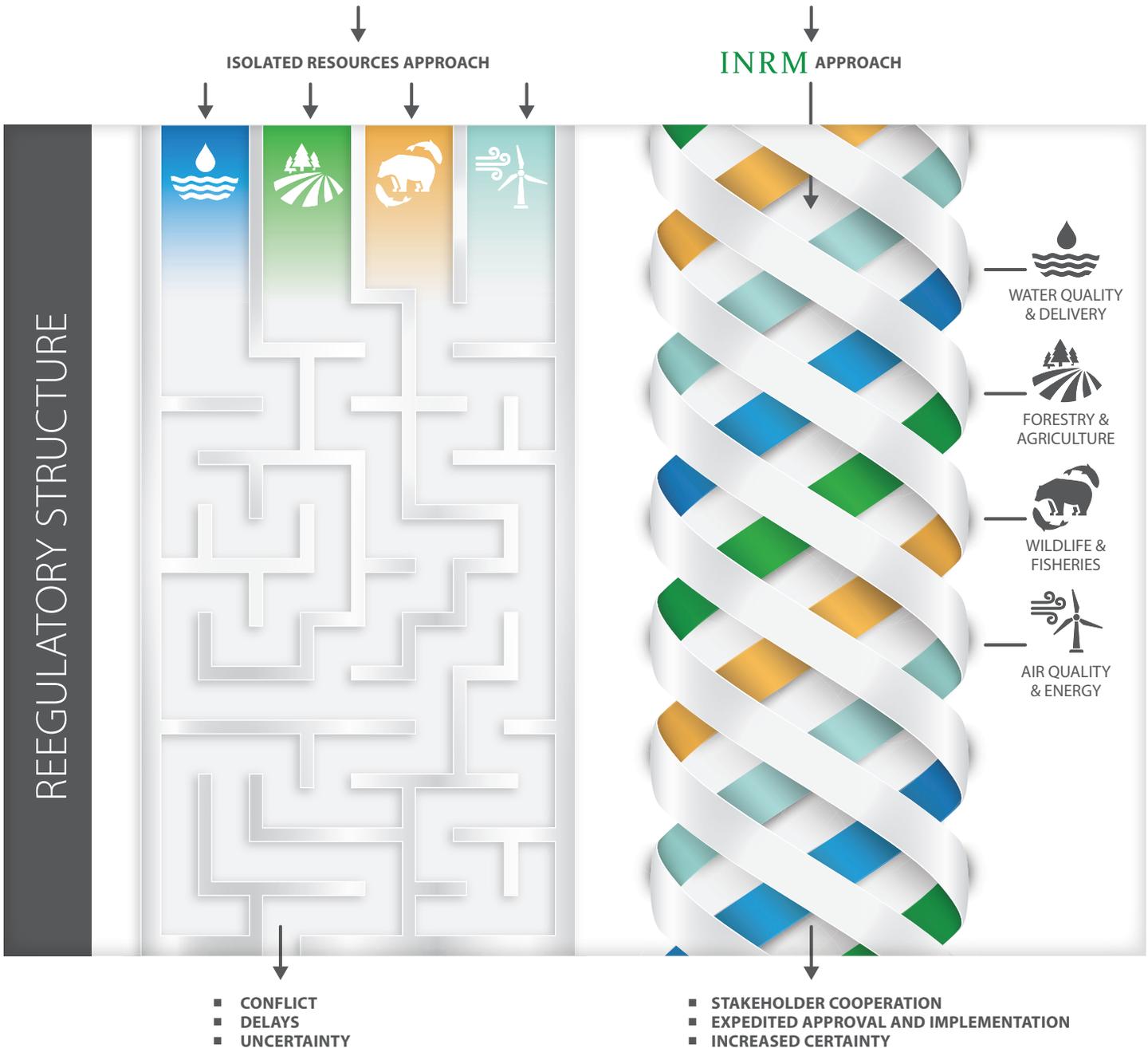
- Strategically engage, early in the project, regulatory agencies and diverse stakeholders that may affect project implementation.
- Create partnerships that can jointly adapt to inevitable changes in a timely and cost-effective manner.
- Accelerate permitting processes and establish long-term operational flexibility.
- Foster innovative business strategies, investment opportunities and improved implementation certainty for the life of the project.



Integrated Resources Management Strategies Increasing Investment Certainty

California's complex regulatory system often creates contradictory agency mandates that lead to additional costs and delays that can doom a proposed project's economic viability. Adopting an integrated, multidisciplinary approach that involves regulatory agencies and other interested parties during a project's design phase can avoid surprises, increase efficiency and flexibility, and improve the certainty that a project can be implemented cost-effectively.

ECOSYSTEM SUSTAINABILITY INVESTMENT OPPORTUNITY



Viewing resources in isolation and failing to prepare for ecosystem-level impacts can lead to lengthy regulatory-compliance delays and jeopardize a project's actual implementation.

Developing integrated management strategies can benefit multiple resources simultaneously, align project and agency objectives, and improve an organization's ability to adapt to change rapidly.

Adaptive Management and Business Sustainability

California's resource management issues and regulatory challenges are likely to grow more complex as climate change accelerates, our population continues to expand, and environmental expectations mount. All these factors, and others, will affect the rate of change on California's landscape. The ability to adapt to these changes efficiently will determine the future viability of business ventures and how successfully state and federal agencies achieve their mandates and realize their visions.

Adaptive strategies recognize and leverage the synergies between resources, and plan for economic, social and ecological benefit. Integrated resource management strategies that enhance ecosystem resiliency and conserve limited resources can benefit public and private entities as well as California's landscapes. For example, consider:

- Financial institutions have with ties to every resource management sector by virtue of providing capital for infrastructure improvements, crop production, and real estate development. Capital investments are based primarily on the borrower's economic stability; integrated resource management strategies lead to greater operational certainty and can reduce risk to lenders.
- Managing water to meet environmental requirements in one region can affect management options in others, and the ability of water agencies statewide to provide reliable access to water. Integrated resource management strategies can protect water sources, and in some cases, increase water yield. Expanding management plans to encompass more factors that influence our limited water resources – such as restoring upper watersheds and meadows, and thinning uncharacteristically dense forests – can improve water supply reliability and ease the transition to California's new hydrologic reality, in which more water comes from pulsating rain events rather than a steady, predictable snowpack.

- Coordinating state and federal agency programs would ensure consistency between agency actions, allow more efficient use of limited staff and budgets, reduce conflicts and free-up resources to be invested in adaptive management strategies and put toward achieving positive environmental benefits.
- Cooperative stakeholder efforts to address multiple resources in an integrated manner could create innovative, realistic incentives to invest in practices that promote ecological sustainability. Such activities could reduce water use and allow producers to derive market benefit from efforts to save water, encourage biodiversity and work in concert with agency objectives to restore the state's landscapes.
- Businesses depend on a predictable supply of the resources needed to manufacture their products. An integrated approach that acknowledges the interrelationships between resources can create investment opportunities and increase predictability. For example, Silicon Valley microchip makers in need of water, lumber manufacturers in need of logs, and energy producers in need of biomass materials have similar interests. An integrated resource management strategy can meet varied demands in a coordinated, sustainable manner to help ensure business continuity while reducing greenhouse gas emissions, lowering severe wildfire threats and increasing carbon sequestration capacity.

There is a solid and growing body of research that indicates addressing water supply reliability, air quality, economies, biodiversity, wildfire behavior, energy costs, community safety, public health and carbon sequestration simultaneously with integrated strategies can provide the furthest-reaching returns.

Innovative Solutions for Complex Environmental Challenges

Integrated Natural Resources Management, LLC (INRM) has the multidisciplinary expertise and coalition-building experience necessary to anticipate the issues likely to affect a project, plan for their eventuality, and develop relationships to overcome obstacles that could otherwise cause significant delays or cost overruns.

INRM employs a systematic approach that from the beginning considers the environmental, social, economic and political factors that may influence a project's design and implementation. We evaluate how one aspect of a project might interact with another as well as how each dovetails with various agency objectives and NGO initiatives. We know that when you need a permit is not the time to engage the agencies.

INRM has engaged numerous state and federal agencies on myriad resource management issues including water quality and water supply reliability (Clean Water Act), wildlife and fisheries (state and federal Endangered Species Acts), air quality (AB 32 and climate change), forest management on federal and private lands (CEQA/NEPA), renewable energy production, and pest management.

With extensive experience in the private sector as well as state and federal government, INRM consistently develops and executes strategies for clients to:

- **Avoid Conflict.** We engage stakeholders early and strategically to pave the way for smooth project implementation.
- **Increase Flexibility.** We anticipate change, and rely on productive relationships and adaptive scientific principles to help organizations adapt to change efficiently.
- **Improve Public Perception.** We work with landowners, NGOs, agency leaders and stakeholders far and wide to garner support for positive outcomes.
- **Save Money.** Integrating resource management plans can keep projects on schedule, reduce legal fees, and lower costs in the short term and long run.



Strategically planning for the effects of one management decision on multiple resources can help move projects through California's regulatory maze more efficiently, cost-effectively and with greater ability to respond to change as it happens.

Advisory Group Experience

- Cal. EPA Climate Change Action Team
- Cal. Dept. of Fish and Game Coho Salmon Recovery Team
- Cal. State Water Resource Control Board Water Quality & Monitoring Task Force
- California Roundtable Advisory Committee on Water and Food Supply
- American Forest and Paper Association Sustainable Forestry Initiative Development Team
- Cal. Dept. of Fish and Game Strategic Plan Advisory Committee
- Cal. Roundtable on Agriculture and the Environment
- Sierra Nevada Conservancy Economic and Environmental Sustainability Advisory Committee
- Pacific Gas & Electric Company Forest & Watershed Stewardship Council Board of Directors
- U.S. Forest Service Northwest Forest Plan Strategic Team
- California Forestry Association Forest Health Task Group



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