



May 15, 2026

ICF PROPOSAL 2026-183428 | RFP # PLN2026-01



Humboldt Natural and Working Lands Carbon Stock and Management Study

Submitted to:

County of Humboldt
Planning and Building Department
3105 H Street
Eureka, CA 95501

Suzanne Lippre
Administrative Analyst
Planning & Building Department
(707) 445-7541
planningbuilding@co.humboldt.ca.us

Submitted by:

ICF Incorporated, L.L.C.
(corporate office)
1902 Reston Metro Plaza
Reston, VA 20190
(703) 934-3000

Janine Egler
Sr Contracts Administrator
(703) 934-3269
janine.egler@icf.com



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Cover Letter

Submitted May 14, 2026

Suzanne Lippre
Administrative Analyst
(707) 445-7541
planningclerk@co.humboldt.ca.us

Dear Ms. Lippre:

ICF Incorporated, L.L.C., registered to do business in the State of California as ICF Consulting, L.L.C., a global consulting and technology services provider focused on making big things possible for our clients, will be the legal entity for any contract awarded in response to this proposal, with participation from its corporate affiliate, ICF Environmental, Inc., hereinafter collectively referred to as (ICF), are wholly-owned subsidiaries of parent ICF Consulting Group, Inc., with ICF Consulting Group, Inc., being under parent company ICF International (NASDAQ:ICFI).

ICF is pleased to submit our Time & Material proposal to County of Humboldt Planning and Building Department (the County) for Request for Proposal PLN2026-01 titled Professional Planning and Technical Support Services to Assist with Humboldt Natural and Working Lands Carbon Stock and Management Study (RFP).

ICF is exceptionally qualified to deliver the Humboldt Natural and Working Lands Carbon Stock and Management Study through the combination of **advanced GIS and remote sensing capabilities**, deep expertise in **IPCC, CARB, and U.S. Inventory-aligned greenhouse gas accounting**, and a demonstrated understanding of the **laws, rules, and regulations governing natural and working lands analysis in California**, including CEQA and State climate legislation. Our team has extensive experience producing spatially explicit carbon inventories, stability analyses, and feasibility assessments that are defensible, transparent, and directly usable for climate action planning and implementation. We understand that Humboldt County requires results that are not only technically rigorous, but also practical for RCAP updates, policy application, and future reporting, grounded in State guidance while tailored to the County's unique land base, management context, and decision-making needs.

We look forward to hearing from you regarding the status of our proposal and welcome the opportunity for further discussion. Please direct technical questions regarding this proposal to our project manager, Hazelle Tomlin, at (202) 862-1246 or Hazelle.Tomlin@icf.com. For contractual questions, please contact Janine Egler, Contracts Manager, at (703) 934-3269 or Janine.Egler@icf.com.

Sincerely,

A handwritten signature in cursive script that reads "Janine Egler".

Janine Egler
Sr Contracts Administrator



Attachment A: Signature Affidavit

RFP # PLN2026-01
Attachment A
Submit With RFP

SIGNATURE AFFIDAVIT	
NAME OF FIRM:	ICF Incorporated, LLC registered in the State of California as ICF Consulting, LLC
STREET ADDRESS:	1902 Reston Metro Plaza
CITY, STATE, ZIP	Reston, VA 20190
CONTACT PERSON:	Janine Egler, Sr Contracts Administrator
PHONE #:	703-934-3269
FAX #:	703-934-3740
EMAIL:	janine.egler@icf.com

Government Code Section 6250 *et seq.*, the "Public Records Act", define a public record as any writing containing information relating to the conduct of public business. The Public Records Act provides that public records shall be disclosed upon written request, and that any citizen has a right to inspect any public record, unless the document is exempted from disclosure.

In signing this proposal, I certify that this firm has not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a proposal; that this proposal has been independently arrived at without collusion with any other proposer, competitor or potential competitor; that this proposal has not been knowingly disclosed prior to the opening of proposals to any other proposer or competitor; that the above statement is accurate under penalty of perjury.

The undersigned is an authorized representative of the above named firm and hereby agrees to all the terms, conditions, and specifications required by the County in this Invitation to Bid and declares that the attached proposal and pricing are in conformity therewith.

Janine Egler
Signature

Sr Contracts Administrator
Title

Janine Egler
Name (type or print)

5/11/2026
Date

This firm hereby acknowledges receipt / review of the following addendum(s) (If any)
Addendum # Addendum # Addendum # Addendum #



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1. Project Understanding

The project team (hereafter referred to as ICF and consists of both ICF staff and Dogwood Springs Forestry) understands Humboldt County seeks a clear, defensible understanding of how much carbon is currently stored across its natural and working lands, how those stocks have changed in recent years, how durable they are under future climate conditions, and where land management actions can realistically increase long-term sequestration. The Humboldt Natural and Working Lands Carbon Stock and Management Study is intended to provide a County-specific analytical foundation that directly supports near-term planning decisions and long-term progress toward carbon neutrality.

This project directly implements **Measure CS-3 of the Humboldt Regional Climate Action Plan (RCAP)**, adopted in December 2025, and supports the County's obligations under **AB 32 (Global Warming Solutions Act of 2006)**, **SB 32 (2016)**, and **AB 1279 (Climate Crisis Act of 2022)**. The project team understands that the County requires results that are not only scientifically credible, but also usable for RCAP updates, coordination with State efforts, and future planning and environmental review processes.

ICF recognizes Humboldt County's land base presents both a significant opportunity and a distinct analytical challenge. Approximately 80 percent of the County is forested, alongside agricultural lands, wetlands, coastal systems, Tribal lands, and extensive public lands. Different land types store carbon differently, are managed under different objectives, and experience different risks from disturbance and climate change. As a result, the Study must integrate multiple land systems within a single, consistent framework, while remaining sensitive to ownership, management practices, and localized risks such as wildfire and coastal flooding.

Historic forest management in Humboldt County strongly influences present-day carbon stocks and sequestration potential.

Approximately 200,000 acres were historically managed by the Pacific Lumber Company (PALCO), first under long-term stewardship and later subject to intensive harvest following its acquisition in the late 1980s. Much of this land was subsequently acquired by Humboldt Redwood Company (HRC) and transitioned to uneven-aged management with longer rotations, though per-acre carbon gains depend primarily on retaining and growing large, mature trees.

Elsewhere in the County, clearcutting remains common, including on lands managed by Green Diamond Resource Company under 50-year FSC-certified rotations. In many former PALCO stands, dense regrowth from redwood stump sprouting has resulted in overstocked forests that currently store less carbon per acre than the mature forests they replaced. Management strategies such as thinning and extended rotations may initially reduce standing carbon but can accelerate long-term sequestration as residual trees grow, highlighting the importance of evaluating carbon benefits over appropriate time horizons.



A central feature of ICF’s understanding of this effort is that **the County needs spatially explicit, transparent results**. Carbon stocks, changes, stability, and management opportunities must be mapped and summarized in ways that allow County staff, decision-makers, and stakeholders to understand where carbon is stored, where it is vulnerable, and where actions can have the greatest long-term benefit. The Study is therefore designed to rely on GIS- and remote-sensing-informed analysis so that results can be visualized, documented, and updated over time.

ICF also recognizes that the County expects the Study to build on existing State and regional work, while improving its relevance at the County scale. The Inventory and Feasibility Study must align with the **California Air Resources Board (CARB) Natural and Working Lands Carbon Inventory** and the **IPCC Guidelines for National Greenhouse Gas Inventories**, while refining methods and assumptions to reflect Humboldt County’s specific conditions and available data. This alignment ensures that results are comparable to State and national inventories, defensible under CEQA, and suitable for incorporation into future RCAP updates without re-analysis.

1.1 Demonstrated understanding of relevant objectives and requirements

ICF understands that the County’s objective is not simply to produce a one-time technical report, but to develop a natural and working lands carbon inventory and feasibility assessment that can function as a practical planning tool and be updated on a periodic basis. The RFP frames this objective through six guiding questions that require the Study to quantify existing carbon stocks, assess changes over time, evaluate stability under climate and disturbance pressures, and identify feasible opportunities to enhance long-term sequestration across different land types and ownerships.

ICF understands that the County requires these analyses to be conducted at a Countywide scale, using transparent, repeatable methods that are grounded in available data and appropriate for regional planning. The Study must clearly distinguish between existing conditions, recent trends, and future opportunities, and must do so in a way that allows results to be interpreted by both technical and non-technical audiences. A key requirement of the RFP is that results be suitable for use in County planning and policy contexts. ICF understands that this requires careful documentation of assumptions, clear linkage to State and federal greenhouse gas accounting frameworks, and presentation of results in formats, such as maps, tables, and structured summaries, that can support RCAP implementation, tracking of progress under Measure CS-3, and future analyses under CEQA.

Finally, ICF understands that the County seeks an approach that allows for early coordination and clarification without expanding the scope of work. The Project Planning Framework is intended to refine guiding questions, confirm data availability, and confirm methodological direction at the



outset, so that subsequent Inventory and Feasibility tasks are fully aligned with County priorities while remaining within the defined scope, assumptions, and level of effort established in the RFP.

2. Company Experience

2.1 Firm Overview



ICF is a global consulting and technology services company that has successfully served clients for over 50 years. ICF's expertise spans a wide range of areas, including climate change mitigation and adaptation. With a team of over 2,000 energy, climate, and environmental staff, the company's integrated team of experts and support staff are organized for effectiveness, providing clients with the capacity to meet deadlines and tackle complex, interdisciplinary challenges. In California specifically, ICF's commitment to innovation and excellence has made us a leader in several technical fields including CEQA/NEPA compliance, GHG accounting, Biological Resources, Regulatory Compliance, Conservation Planning, and land management strategies. ICF maintains seven main offices in CA (the nearest being Redding, San Francisco, and Sacramento) but supports several hundred office-based and remote workers that support numerous organizations, cities, counties, and regional networks across California. Our team is therefore made up of several CA-based staff as well as climate change and modeling specialists located in our east coast offices. To supplement our broad experience, ICF is proposing a team for this effort that includes a locally based staff member and local partner: Dogwood Springs Forestry.

Dogwood Springs Forestry is a consulting forestry practice led by John F. Nickerson, a California Registered Professional Forester with over three decades of experience in forest management, carbon accounting, and applied resource analysis. The firm provides technical expertise in silviculture, forest inventory, timber valuation, and climate-focused land management, serving public agencies, tribes, NGOs, Mexican communities, and private landowners, with deep experience in the redwood forests of Northern California, including Mendocino and Humboldt Counties. Dogwood Springs Forestry has played a leading role in the development of greenhouse gas accounting methodologies, including work with the Climate Action Reserve and related state-led climate programs. The firm has also collaborated on innovative, landscape-scale approaches to expanding climate-beneficial management with organizations such as The Nature Conservancy, Environmental Defense Fund, and Washington Conservation Action. Dogwood Springs Forestry integrates rigorous analytical methods with practical field experience to quantify carbon stocks and trends, evaluate wildfire risk and resilience, and design management strategies that enhance long-term climate benefits while maintaining economic viability.



3. References

This section presents ICF’s past performance on projects comparable in scope, scale, and complexity to the work requested in this RFP. To demonstrate relevant experience, Exhibit 1 presents three client references in the format required by RFP Attachment B (References Data Sheet). Section 3.1 includes 12 additional examples of relevant past performance provided in Exhibit 3, while Exhibit 2 summarizes how these examples align with the current scope of work, demonstrating ICF’s experience delivering comparable technical analyses, stakeholder engagement, and implementation support for public-sector clients.

Exhibit 1: RFP Attachment B, Reference Data Sheet

Name of firm:	Humboldt Redwood Company, LLC
Street address:	125 Main St
City, state, zip	Scotia, CA 95565
Contact person:	Sal Chinnici
Email:	schinnici@hrllc.com
Phone #:	707-845-3012
Fax #:	NA

Product(s) and/or Service(s) Used:

ICF has supported the Humboldt Redwood Company (HRC) since 2020, initially assisting with the implementation of their Habitat Conservation Plan (HCP) and now working to help amend their HCP that they inherited from the Pacific Lumber Company (PALCO). ICF staff from Arcata, Eureka, and Redding have worked closely with HRC staff, regulatory agencies, and foresters to prepare 8 compliance monitoring protocols to be used across ~200,000 acres of industrial timberlands in Humboldt County. As part of this work, Dr. Jordan Mayor has provided senior technical leadership, helping to guide the scientific and statistical design of the monitoring framework and ensuring alignment with regulatory expectations and best practices in forest ecology and applied statistics.

The protocols incorporate robust sampling design, statistical analysis, and repeatable methodologies to assess compliance with HCP conservation measures. Their application has enabled HRC to demonstrate consistently high compliance performance, providing a transparent, data-driven basis for evaluating HCP effectiveness. This rigorous analytical approach has strengthened agency confidence in both HRC’s management practices and the credibility of the monitoring results.

Building on this foundation, ICF is now supporting HRC and agency partners in developing a formal amendment to the HCP, which will guide forest management and conservation activities over the remaining approximately 25 years of the permit term. In this phase, Dr. Mayor continues to play a key advisory role, supporting refinement of monitoring approaches, evaluation of long-term data trends, and integration of updated scientific methodologies into the amended plan.

Name of firm:	Bay Area Air District
Street address:	375 Beale St., Suite 600
City, state, zip	San Francisco, CA 94105
Contact person:	Abby Young
Email:	ayoung@baaqmd.gov
Phone #:	Office: 415.749.4754 Mobile: 415.416-5697
Fax #:	NA

Product(s) and/or Service(s) Used:



Name of firm: Bay Area Air District

In 2025, ICF provided technical assistance to develop the Bay Area NWL Inventory (link to deliverable: [appendix-b-2022-natural-working-lands-inventory.pdf](#)). As part of this effort, ICF (led by Ann McElvein) developed a comprehensive, spatially explicit baseline assessment of ecosystem carbon stocks across the entire Bay Area. The team compiled a 2022 inventory using remote sensing and geospatial datasets, including satellite-derived raster data, to quantify above- and below-ground carbon across all major land cover types (e.g., forests, wetlands, croplands, and grasslands).

ICF’s work extended beyond baseline accounting to include development of a business-as-usual (BAU) trajectory, establishment of regionally relevant greenhouse gas reduction targets, and quantification of potential mitigation opportunities within the NWL sector. The resulting inventory was designed at a high spatial resolution (30 meters), enabling detailed analysis of carbon stock distribution and supporting scenario modeling of land-based climate strategies to inform the Bay Area Air District’s Comprehensive Climate Action Plan.

The inventory also aligned with state-level methodologies and planning frameworks, including the California Air Resources Board (CARB) NWL inventory and scoping plan, ensuring consistency with broader policy and reporting efforts. By categorizing carbon stocks by land cover type and quantifying both existing storage and sequestration potential, the analysis provided a robust, data-driven foundation for identifying priority actions to reduce emissions and enhance carbon sequestration across the region.

Name of firm:	The Nature Conservancy
Street address:	830 S Street
City, state, zip	Sacramento, CA 95811
Contact person:	Michelle Passero
Email:	mpassero@TNC.ORG
Phone #:	Office: 916-449-2850
Fax #:	NA

Product(s) and/or Service(s) Used:

John Nickerson (of Dogwood Springs Forestry- while at The Climate Action Reserve) provided technical assistance and authored the inventory and beneficial activities sections in Resilient Merced (2019).

John assisted with the remote sensing and developed the inventory system to estimate landscape carbon stocks and greenhouse gas emissions across all land uses within Merced County. The inventory is based primarily on LANDFIRE 30-meter land cover data, supplemented with custom land classifications developed from aerial imagery, local GIS datasets, crop records, and expert review to improve accuracy for agriculture, wetlands, urban areas, grasslands, and water features.

Land cover classes were linked with soil, climate, and crop management data to estimate carbon stored in vegetation and soils, as well as methane and nitrous oxide emissions. Soil carbon estimates were modeled using IPCC climate and soil zones together with COMET-Planner/COMET-Farm methodologies. The resulting inventory provided spatially explicit estimates of carbon stocks and emissions for 2001 and 2014, supporting baseline trend analysis and future scenario modeling.

The inventory was used to establish a baseline reference scenario by comparing landscape carbon stocks and greenhouse gas emissions between 2001 and 2014 and extrapolating those trends forward under a business-as-usual assumption. This baseline provided a benchmark against which alternative land management and conservation scenarios could be evaluated. By tracking changes among land cover classes, agricultural practices, and development patterns over time, the methodology also helped identify the underlying drivers, or causal factors, influencing trends in carbon storage and greenhouse gas emissions across the landscape.

The guide developed standardized “activity sheets” that describe specific land management and conservation practices designed to improve greenhouse gas outcomes by increasing carbon storage or reducing methane and nitrous oxide emissions. Each sheet provides implementation guidance, quantification methods, monitoring and



Name of firm:	The Nature Conservancy
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reporting requirements, expected greenhouse gas benefits, and likely effects on complementary environmental benefits. Activities included practices such as riparian restoration, improved forest management, reforestation, cover cropping, hedgerow planting, compost application, improved fertilizer management, urban forestry, native grassland restoration, and avoided land conversion. The activity sheets were intended to support consistent implementation and accounting across landowners and jurisdictions and simplify the development of climate-beneficial activities.

All public facing deliverables can be found here: <https://maps.conservation.ca.gov/terraccount/> including a final report, GIS tool (which can be run when downloaded if user has access to ArcGIS), sample data, and appendices.

3.1 Additional Examples of Past Performance

Both ICF and Dogwood Springs Forestry bring extensive experience in GHG accounting methods, remote sensing-based spatial analysis, and the laws and regulations governing natural and working lands carbon work in California. The following section details relevant prior projects demonstrating that experience. See Exhibit 1 and Exhibit 2 below, for examples of additional projects that demonstrate ICF’s experience related to the SOW.

Exhibit 2: Chart displaying prior project relevance to SOW requirements.

Project Title	SOW Requirements			
	Literature Review	Stakeholder Engagement	NWL Inventory	Feasibility Study
1 – ICF: Western Oregon State Forests Habitat Conservation Plan, Forest Management Plan, and Environmental Impact Statement				●
2 – ICF: Multiple Contracts: Support for the EPA CPRG Program		●	●	●
3 – ICF: Elliott State Research Forest HCP Development and Implementation Support		●		●
4 – ICF: Habitat Conservation Plan (HCP) Implementation and Amendment Support		●		●
5 – ICF: Wildfire Mitigation Planning Support Services				●
6 – ICF: Marbled Murrelet HCP NEPA Compliance Support				●
7 – ICF: USDA Forest Service Enterprise Land Management System	●	●	●	●
8 – DSF: Landscape Approach to Nature Designed Solutions (LANDS) Program		●	●	
9 – DSF: Carbon Inventory Estimates for the North Coast Resource Partnership	●		●	
10 – DSF: North Fork Forest Recovery Project				●
11 – DSF: Specialist Report for West Lassen Headwaters Project	●		●	●



Exhibit 3: Detailed descriptions of prior projects.

1 – ICF	
Project Name	Western Oregon State Forests Habitat Conservation Plan, Forest Management Plan, and Environmental Impact Statement
Client	Oregon Department of Forestry; and B. National Marine Fisheries Service (NOAA Fisheries) and U.S. Fish and Wildlife (USFWS)
Period of Performance	03/2022–present

Three separate teams at ICF’s west coast offices supported preparation of the Habitat Conservation Plan (HCP), Forest Management Plant, and Draft Environmental Impact Statement (EIS) for NEPA compliance for the Western Oregon State Forests.

The Draft EIS was prepared for the National Marine Fisheries Service (NOAA Fisheries), with the U.S. Fish and Wildlife Service as a cooperating agency, and supports Endangered Species Act incidental take permit applications submitted by the Oregon Department of Forestry on approximately 640,000 acres of lands in western Oregon. As part of the Draft EIS, ICF conducted a **comprehensive greenhouse gas (GHG) and carbon analysis** across multiple management alternatives. The analysis quantified GHG emissions and carbon sequestration associated with state forest management activities, including timber harvest, forest restoration, young stand management, and road system management. Carbon sequestration estimates were based on forest modeling outputs developed by the Oregon Department of Forestry and integrated into the alternatives analysis.

The Draft EIS evaluates the environmental consequences of the proposed HCP and alternatives across a broad suite of resource topics, including water resources, vegetation, fish and wildlife, socioeconomics, environmental justice, and climate change, providing decision-makers with a transparent comparison of climate impacts and carbon storage outcomes under different long-term forest management scenarios. The Draft HCP and Draft EIS was released for public review in March 2022, final efforts on the HCP and Forest Management Plan are taking place this summer and fall of 2026.

2 – ICF	
Project Name	Multiple Contracts: Support for the EPA CPRG Program, 2021–Present.
Client	14 Clients
Period of Performance	2021–Present

Project Description

ICF has supported 14 regions and states in developing Priority Climate Action Plans (PCAPs), Comprehensive Climate Action Plans (CCAPs), and implementation grants, with plans to also support the development of Status Reports, due to EPA in 2027. This work including sector modeling for land use, land use change and forestry (LULUCF), as well as agriculture, buildings, energy, transportation and waste. **ICF services included compiling inventories, projecting GHG emissions, mitigation scenario modeling, analyzing reduction pathways, public and stakeholder engagement, creating data visualization, and preparing reports.**

LULUCF mitigation modeling included enhanced carbon sequestration and avoided emissions scenarios for land conservation, improved forest management, and expansion of carbon sinks (e.g., afforestation, urban canopy, and green infrastructure). For LULUCF, ICF quantified impacts using **land cover-based carbon stock modeling**, applying scenario-driven changes in land management, adoption rates, and land use transitions to estimate sequestration pathways through 2050. ICF developed integrated approaches relevant to each region, across forests, wetlands, grasslands, agricultural lands, and urban systems, incorporating practices such as riparian restoration, agroforestry, urban forestry, and barren land conversion.



2 – ICF

For many projects ICF developed stakeholder engagement plans, which included stakeholder maps and schedules and outlines of in-person, virtual, and hybrid events for public and technical stakeholder audiences. ICF also directly conducted some of the engagement and outreach, facilitating meetings, developing agendas and materials, and integrating takeaways into the analysis and reports. For EPA, ICF also provided technical assistance to CPRG grantees through training forums, one-on-one guidance, and resources such as climate action plan outlines, inventory guides, and calculation tools. Completed plans ICF supported include:

- [A Climate Action Plan for the Knoxville Region](#)
- [Bay Area Regional Climate Action Planning Initiative](#) (see also references)
- [Commonwealth of Virginia Priority Climate Action Plan](#)
- [Comprehensive Climate Action Plan for the DC-MD-VA-WV MSA](#)
- [Delaware Climate Action Plan](#)
- [Hampton Roads Comprehensive Climate Action Plan](#)
- [Pennsylvania Climate Action Plan Update](#)
- [Philadelphia MSA Priority Climate Action Plan](#)
- [North Carolina Comprehensive Climate Action Plan](#)
- [Richmond, VA MSA Climate Priority Action Plan](#)
- [Riverside-San Bernardino-Ontario MSA Comprehensive Climate Action Plan](#)

3 – ICF

Project Name	Elliott State Research Forest HCP Development and Implementation Support
Client	Oregon Department of State Lands
Period of Performance	01/2022-Present

ICF is supporting the Elliott State Research Forest (ESRF) Habitat Conservation Plan (HCP), an innovative HCP developed for a newly established, approximately 83,000-acre state research forest located near Coos Bay on the Oregon coast. ICF contributed to stakeholder engagement and technical review of HCP text during the final phases of plan development, culminating in issuance of the associated HCP permits in summer 2025. One area of focus was on developing stand age projections over the analysis period and converting acres to metric tons of carbon stored (based on carbon density by stand age) to develop the average rate of carbon storage. ICF continues to support the Oregon Department of State Lands and newly hired ESRF staff as they initiate HCP implementation.

Current implementation support includes close collaboration with ESRF staff to interpret HCP requirements, develop forest management priorities consistent with permit conditions, **establish shared GIS databases to support monitoring and decision-making**, and develop additional implementation tools to improve operational efficiency and long-term management of the Elliott State Research Forest as a working research landscape.

4 – ICF

Project Name	Habitat Conservation Plan (HCP) Implementation and Amendment Support
Client	Humboldt Redwood Company, LLC
Period of Performance	01/2020-Present

Compliance Monitoring (January 2020 – Present)

ICF is conducting third-party compliance monitoring under Humboldt Redwood Company’s (HRC) Habitat Conservation Plan (HCP), including the statistical design and implementation of multiple monitoring protocols required by the HCP, which was originally developed for the Pacific Lumber Company and now applies to approximately 200,000 acres of industrial timberlands in Humboldt County.



4 – ICF

The third-party monitoring program was established at the recommendation of the U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and California Department of Fish and Wildlife (CDFW). ICF has led protocol development in close coordination with staff from these Wildlife Agencies and HRC personnel, **ensuring that monitoring approaches meet regulatory requirements while remaining operationally feasible at a landscape scale.**

Through this collaborative process, and by applying ICF’s innovative digital data collection and management tools, the monitoring program has improved data efficiency, accelerated preparation of annual compliance reports, and increased agency confidence in HRC’s forest management and conservation outcomes.

HCP Amendment (September 2024 – Present)

ICF is leading the amendment of Humboldt Redwood Company’s 1999 HCP and prepared a successful Section 6 Conservation Planning Assistance grant application to support the amendment process and currently manages all aspects of the project. Responsibilities include internal coordination across multidisciplinary ICF technical teams, external coordination with HRC and the Wildlife Agencies, facilitation of planning workshops and meetings, participation in all client and agency coordination meetings, and preparation of the amended HCP document.

The amendment is intended to improve regulatory efficiency for forest management operations while achieving enhanced conservation outcomes for covered species, with particular emphasis on the Northern Spotted Owl. The amendment process is expected to culminate in an approved Amended HCP in 2027.

5 – ICF

Project Name	Wildfire Mitigation Planning Support Services
Client	Eugene Water and Electric Board
Period of Performance	07/23/2021-05/31/2023

Project Description

EWEB contracted with ICF to support the development of its **Wildfire Mitigation Plan**, as required by a recently passed Oregon Senate Bill. EWEB scoped a first phase of the project to include an initial review of 13 circuits that their staff deemed to be in high-fire risk zones. All work was meant to inform the development of a Wildfire Mitigation Plan and support any other wildfire mitigation activities. **ICF reviewed relevant programs and procedures for compliance with upcoming Oregon Public Utility Commission (OPUC) wildfire regulations** and conducted a thorough review of the potential role of pre-emptive, Public Safety Power Shutoffs (PSPS) as part of EWEB’s wildfire mitigation strategies. This review recommended specific PSPS criteria, such as weather conditions, balancing those thresholds with real-world tradeoffs of power outages for residents that are not under mandatory evacuation orders.

ICF developed fire behavioral modeling for EWEB’s high-risk circuits. The analysis was intended to guide and direct mitigation and public notification strategies, including fuel reduction plans and ignition risk potential, while also supporting fire response and evacuation plans.

6 – ICF

Project Name	Marbled Murrelet HCP NEPA Compliance Support
Client	Green Diamond Resource Company
Period of Performance	01/2025-Present

ICF has been leading the development of an Environmental Assessment for NEPA compliance for this single-species HCP located on 230,000 acres of industrial timberland in Humboldt County. ICF also oversaw **impact analysis on biological resources section of the NEPA document resulting in a deep understanding of Green Diamond’s forest management activities in Humboldt County.** ICF is evaluating the impacts of timber operations and forest management activities on the marbled murrelet in Humboldt and Del Norte counties over 50 years. Analysis includes considerations for aesthetics and visual resources, recreation, and environmental justice and socioeconomics.



7 – ICF

Project Name	USDA Forest Service Enterprise Land Management System
Client	USDA Forest Service
Period of Performance	9/10/2024 - 11/28/2025

Project Description

ICF was sub to Dynamo for this contract. We provided 4 resources to Dynamo to support following applications:

1. Burned Area Emergency Response – Burn Area Rehabilitation (BAER-BAR). ICF supports development of the BAER-BAR system, which enables the Forest Service to **identify and respond to post-wildfire threats to life, property, and critical natural and cultural resources**. The system supports emergency risk identification and rehabilitation planning, and ICF provides **UI/UX, GIS analysis, business analysis, scrum facilitation, and delivery support** to modernize this mission-critical application.
2. Community Forests Program (CFP). ICF supports development of the Community Forest and Open Space Conservation Program application, a Power Platform–based system used to track implementation of community forest acquisition projects. The application serves as the agency’s official performance database, enabling grant application intake, project tracking, reporting of accomplishments, and monitoring of long-term compliance with community forest management plans.
3. Transactions Evidence Appraisal (TEA) Modernization. The TEA Modernization effort replaces multiple outdated regional timber appraisal systems, including legacy MS Access databases and Excel-based tools, with a unified national application built on the Region 1 appraisal model. The modernized TEA system integrates with the National Cruise System for data input and outputs appraisal results to the Timber Information Manager (TIM), providing a consistent, user-focused approach for determining fair market stumpage value.
4. Enterprise Land Management System (ELMS). **ELMS is a major modernization initiative designed to make NEPA and NFMA compliance more efficient and effective across the Forest Service**. The system integrates and expands the capabilities of the eMNEPA suite (PALS, CARA, Pinyon Public, GovDelivery) and provides a centralized workspace for interdisciplinary teams. ELMS supports land management planning, NEPA analysis, administrative review, litigation, and monitoring, improving national data visibility and cross-unit collaboration.
5. National Cruise System. ICF supports development of the National Cruise System, which standardizes the tree measurement and timber cruising process used to determine volume and value for timber sales across all USFS regions. The system supports Gate 3 timber sale requirements and provides end-to-end functionality for building, managing, and validating cruise data that feeds downstream systems such as TEA.

8 – Subcontractor: Dogwood Springs Forestry

Project Name	Landscape Approach to Nature Designed Solutions (LANDS) Program
Client	Mendocino County Resource Conservation District
Period of Performance	01/2023-12/2024

John Nickerson led the technical analysis to **develop a wall-to-wall inventory and baseline analysis of natural and working lands within the Navarro Watershed in Mendocino County**. Through stakeholder engagement, climate beneficial activities were identified, modeled, and describe withing individual ‘Activity Sheets’. The outcome of the effort was a conceptual working model of a jurisdictional greenhouse gas accounting platform whereby beneficial land management activities could be identified and presented to government agencies or carbon markets for financing with guidance for monitoring, reporting, and verification and registry support. The project led to the creation of the LANDS Program.



8 – Subcontractor: Dogwood Springs Forestry

The LANDS Program (Landscape Approach to Nature-Designed Solutions) is a community-based framework that supports climate-beneficial land management across forests, agricultural lands, and working landscapes. The program combines landscape-scale greenhouse gas accounting, ecosystem restoration, and long-term sustainability goals with local engagement and technical support to help landowners implement practical, science-based solutions. By working through trusted local resource professionals and standardized program methodologies, LANDS seeks to scale resilient land stewardship while generating measurable climate, ecological, and community benefits.

9 – Subcontractor: Dogwood Springs Forestry

Project Name	Carbon Inventory Estimates for the North Coast Resource Partnership
Client	North Coast Resource Partnership
Period of Performance	01/2017-10/2017

John Nickerson developed a GIS-based carbon accounting methodology that combines remotely sensed landcover data, published biomass equations, soils datasets, sampling approaches, and literature-derived conversion factors to estimate landscape-scale carbon stocks across the North Coast Resource Partnership (NCRP) region.

The analysis was designed as a regional carbon inventory for natural and working landscapes, with estimates expressed as carbon dioxide equivalent (CO₂-e). The methodology used common approaches used by the California Air Resources Board (ARB) statewide inventory framework and adapts them for the NCRP study area.

The approach relied heavily on:

- LANDFIRE vegetation data
- GIS raster analysis
- Stratification by vegetation type, height, and density
- Soil carbon databases
- Literature-derived biomass relationships
- Urban canopy sampling
- Timber harvest conversion methodologies

The study explicitly states that it was intended for strategic regional planning rather than fine-scale project accounting, and no formal confidence statistics were developed for the NCRP-specific inventory estimates.

Link to report here: [North Coast Resource Partnership Carbon Inventory Estimates](#)

10 – Subcontractor: Dogwood Springs Forestry

Project Name	North Fork Forest Recovery Project
Client	North Fork Forest Recovery Project/Plumas National Forest
Period of Performance	11/2023-05/2024

Dogwood Springs Forestry was subcontracted to develop the Silviculture Specialist Report which was used as part of the NEPA analysis for the project. The project development was coordinated by the Sierra Institute for Community and Environment and the Plumas National Forest.

John Nickerson performed the data analysis of Plumas National Forest stand exam data and used the Forest Vegetation Simulator to model planned silviculture activities and a no-action alternative to develop a comparative analysis that addressed habitat, fire and pest resilience metrics, economics, carbon storage and CO₂ emissions, and cumulative effects. The development of the project involved a multi-disciplinary approach with frequent communications among supporting consultants and the Plumas National Forest. The NEPA permit was approved in 06/2025.

Link to project page: <https://www.fs.usda.gov/r05/plumas/projects/archive/64028>



11 – Subcontractor: Dogwood Springs Forestry	
Project Name	Specialist Report for West Lassen Headwaters Project
Client	Sierra Institute for Community and Environment/Lassen National Forest
Period of Performance	11/2024-10/2025

Dogwood Springs Forestry was subcontracted to develop the Silviculture Specialist Report which was used as part of the environmental assessment for the project. The project development was coordinated by the Sierra Institute for Community and Environment and the Lassen National Forest.

John Nickerson performed the data analysis of Lassen National Forest stand exam data and used the Forest Vegetation Simulator to model planned silviculture activities and a no-action alternative **to develop a comparative analysis that addressed habitat, fire and pest resilience metrics, economics, and cumulative effects.** The development of the project involved a multi-disciplinary approach with frequent communications among supporting consultants and the Lassen National Forest. The Environmental Assessment was approved in October 2025.

Link to report here: [West Lassen Headwaters Landscape Restoration Project Final Environmental Assessment](#)

4. Staff Experience

4.1 Team Organization

ICF has assembled a multidisciplinary team of technical experts and support staff with nationally recognized experience in natural and working lands GHG accounting, emissions and removals modeling, data analysis and reporting, remote sensing and GIS, Forestry and Forest Ecology, CEQA and related State and local regulatory frameworks, and stakeholder engagement and public communication. Together, this team brings deep experience delivering defensible, policy-relevant analyses that support planning, decision-making, informed through public engagement. An organizational chart illustrating the proposed project team is provided in Exhibit 4, and this section explains project roles and highlights key technical expertise. Full resumes for key staff are also provided in **Appendix A: Resumes.**

Our project manager, **Hazelle Tomlin**, will serve as the main point of contact with County staff and oversee coordination across the team. Hazelle brings deep expertise in agriculture, forestry, and land-use (AFOLU) greenhouse gas accounting and her experience includes leading County- and State-scale inventories, emissions and removals modeling, mitigation scenario analysis and multidisciplinary teams. She has a deep understanding of national and international reporting methods and frameworks including the 2019 Refinement to the 2006 IPCC Guidelines for GHG Inventories, the U.S. GHG Inventory methods, and California reporting conventions, and is nominated to the UNFCCC International Roster of Experts for review of national GHG inventories. Hazelle led AFOLU baseline emissions inventories, emissions projections through 2050 and mitigation modeling through 2050 under EPA’s Climate Pollution Reduction Grant (CPRG) program, as the modeling basis for multiple Comprehensive Climate Action Plans (CCAPs). Additionally, Hazelle has led uncertainty analyses and quality assurance, quality control (QAQC) and verification



procedures for both the U.S. and New Zealand national GHG inventories. Hazelle will ensure the team delivers high-quality work that meets County needs on time and within budget. Hazelle is

Exhibit 4: Organization Chart. * Indicates staff based in Humboldt or Mendocino Counties.

based in Incline Village, Nevada.



Hazelle will be supported by deputy project manager, **Ann McElvein**, who will support day-to-day coordination, serve as a backup point of contact for Hazelle, oversee GIS and analytical workflows, and ensure that spatial datasets and modeled results are suitable for reporting, public communication, and future updates. Ann brings more than six years of experience directly aligned with the core technical requirements of this project, applying geospatial analysis, remote sensing,



quantitative modeling to natural and working lands carbon inventories, climate planning, and land-based mitigation assessments. Her research modeling forest soil carbon ([McElvein et al., 2026](#)) reflects her applied understanding of the landscape-scale drivers of forest carbon and the remote sensing methods used to map them, developed in forests shaped by a history of logging and pest and disease pressure similar to Humboldt's. Her background in forest ecology, soils, wetlands, and agricultural systems enables her to support cross-land-use integration within a single analytical framework, consistent with IPCC and CARB guidance. Ann is based in San Francisco, California.

Sophia Stonebrook will support advanced remote sensing analyses, data processing, and dashboard development to visualize and communicate results. Her MS in Remote Sensing and Geospatial Sciences as well as her experience developing GIS-based inventories and visualization tools directly support the RFP's requirements for map-based outputs, GIS data layers, and transparent documentation of methods and results.

Isabella Scornaienchi (Bella) will provide analytical and research support focused on natural and working lands GHG accounting, BAU trend development, and spatial analysis of land cover and carbon pools. Her experience processing datasets, building inventories using GIS, and supporting documentation and QA/QC is relevant for the literature and data review, inventory compilation, feasibility analysis, and QA/QC, with a focus on reproducible analytical workflows.

Rich Walter will serve as Senior Advisor for the Humboldt Natural and Working Lands Carbon Stock and Management Study, providing expert guidance on CEQA compliance, greenhouse gas analysis, and climate policy alignment. He brings over 30 years of experience leading complex CEQA and NEPA analyses for large-scale plans and infrastructure projects across California, project- and program-level GHG inventories, statewide climate action plans, GHG reduction strategies, and application of CARB- and CAPCOA-endorsed methodologies. In this role, he will support methodology selection, ensure CEQA defensibility of analytical approaches and findings, and advise on incorporation of study results into RCAP updates and future County policy and planning efforts.

John Nickerson of Dogwood Springs Forestry, ICF's subcontractor, will play a central technical and engagement role on the project, supporting in-person stakeholder engagement with landowners and resource managers while providing key contributions to the literature review, methodology selection, and emissions and removals modeling. A Registered Professional Forester with over 30 years of experience, John is a nationally recognized expert in forest carbon accounting and modeling, including authorship and oversight of forest and urban forest carbon protocols adopted for both voluntary and California compliance markets. His prior leadership at the Climate Action Reserve and current work through Dogwood Springs Forestry include development of quantification methodologies, analytical tools, and jurisdictional approaches for natural and working lands carbon accounting. John's long-standing professional relationships with landowners, tribes, NGOs, and public agencies, particularly in Northern California, positioning him to effectively



support stakeholder engagement and ensure that modeling assumptions and management scenarios reflect on-the-ground practices and local context in Humboldt County.

Dr. Jordan Mayor brings deep ecosystem science expertise and local knowledge to the Humboldt Natural and Working Lands Carbon Stock and Management Study. Specifically, his leadership on timber-based Habitat Conservation Plans in Humboldt County (e.g., for Green Diamond and Humboldt Redwood Company HCPs) as well as in Western Oregon (e.g., Western Oregon State Forest and Elliot State Research Forest HCPs) provides critical insight into navigating natural resource and forestry regulatory frameworks relevant to working lands carbon strategies. Having lived in Humboldt County, collaborated with local public and private clients, and provided CEQA review, Jordan will support stakeholder engagement efforts, help ground-truth analytical assumptions, and play a key role in identifying and evaluating best management practices for the Feasibility Study. His support will ensure that recommended strategies are ecologically sound, locally appropriate, and implementable within Humboldt County's regulatory and management context.

Jennifer McAdoo and **Stephanie Ridley** will complement John Nickerson's forest carbon expertise, and Dr. Jordan Mayor's environmental management and local expertise, by providing deep, applied experience in forest management, forest ecology, and the dynamics of carbon storage and disturbance in working forest landscapes. Together, they bring extensive backgrounds in forest planning, silviculture, watershed and soil processes, and regulatory compliance for forest lands across the western United States. On this project, Jennifer and Stephanie will support the evaluation and selection of forest-related best management practices, assist in interpreting how different management strategies influence carbon stocks and stability, and help ensure that feasibility recommendations reflect both climate benefits and practical forest management considerations relevant to Humboldt County.

Dr. Mason Fried will lead the hazard modeling for the carbon stock stability analysis, supported by **Noah Carpenter**, bringing advanced expertise in climate science, hazard analysis, and application of downscaled climate projections. Mason is a climate scientist with extensive experience developing, evaluating, and applying high-resolution climate hazard projections for public-sector planning and policy applications, including large-scale assessments in California and across the United States. Noah supports Mason with specialized expertise in atmospheric science, probabilistic hazard modeling, and high-resolution climate data analysis. Together, they will evaluate localized impacts from climate and natural hazards, including wildfire and other climate hazards such as sea level rise, to assess the stability of existing carbon stocks across Humboldt County's natural and working lands.

The core technical team will be supported by additional staff providing research, GIS, analytical, and writing support, as well as have access to ICF's broader bench of subject matter experts in



matters related to natural and working lands, forestry, agriculture, greenhouse gas accounting, wildfire and resilience, and climate policy, as needed.

4.2 Demonstrated knowledge of laws, rules and regulations concerning scope of work

Our team brings extensive experience working within the legal and regulatory frameworks that govern climate planning, natural and working lands management, and carbon sequestration projects in Humboldt County and across California. The proposed team has applied AB 32 (Global Warming Solutions Act of 2006), SB 32 (2016), and AB 1279 (Climate Crisis Act of 2022) through greenhouse gas inventories, natural and working lands assessments, and climate action planning efforts that support carbon neutrality goals and allow for sequestration-based reductions. As a result, we are well versed in the statutory, regulatory, and policy requirements that directly inform implementation of the Regional Climate Action Plan (RCAP), including land-based strategies under Carbon Sequestration measures such as Measure CS-3.

ICF's CEQA and regulatory expertise is led by **Rich Walter**, who brings more than three decades of experience managing CEQA and NEPA analyses for plans and programs across California, including GHG inventories, climate action plans, and project and program level GHG analyses. His work has directly supported jurisdictions in establishing defensible methodologies, CEQA thresholds, and climate policies consistent with State law and CARB guidance, including contributions to CAPCOA CEQA and climate guidance used statewide. Rich's experience ensures that the methodologies selected and documented under this Study will be appropriate for CEQA use and future policy application.

With respect to land use and resource regulation, our team regularly works with local land use authorities, Local Coastal Programs (where applicable), zoning and General Plan policies, and County-level implementation ordinances to ensure that proposed working lands and carbon sequestration actions are feasible, legally defensible, and consistent with adopted plans and policies. We understand how these local requirements interact with RCAP carbon sequestration measures and implementation pathways. Complementing ICF's statewide expertise, **Dr. Jordan Mayor**, based in Eureka, provides direct, local knowledge of CEQA implementation and land use regulation in Humboldt County. Jordan has served as Project Manager and Deputy Project Manager under a CEQA professional services agreement for the Humboldt County Planning & Building Department, supporting peer review of CEQA documents, preparation of technical analyses, and development of staff reports presented at public hearings. His additional leadership on timber-based Habitat Conservation Plans in Humboldt County (e.g., for Green Diamond and Humboldt Redwood Company HCPs) as well as in Western Oregon (e.g., Western Oregon State Forest and Elliot State Research Forest HCPs) provides critical insight into navigating natural resource and forestry regulatory frameworks relevant to working lands carbon strategies. This experience includes California Forest Practice Rules and Timber Harvest Plan requirements; habitat and



species protection statutes, including the California and federal Endangered Species Acts, as they relate to land based climate actions; and, coordination with conservation and land stewardship programs administered by state and regional agencies.

John Nickerson, a California Registered Professional Forester based in Ukiah, brings nationally recognized expertise in forest carbon accounting and policy development. As former Vice President of Forestry at the Climate Action Reserve, John led development of forest and urban forest carbon protocols adopted by the State of California for compliance purposes and has worked directly with state agencies, counties, tribes, and landowners to apply CARB aligned methodologies at jurisdictional and landscape scales. His authorship of the 2017 Carbon Inventory Estimates for the North Coast Resource Partnership and his familiarity of the 2025 update to the CARB Natural and Working Lands Carbon Inventory, ensures that forest carbon stock, stability, and sequestration analyses are consistent with State policy, scientifically defensible, and grounded in real world land management practices. He is familiar with many local landowners and will be instrumental in consultations with them to develop an understanding of existing stewardship practices.

Together, these experiences demonstrate ICF's ability to deliver a Humboldt Countywide Natural and Working Lands Carbon Stock and Management Study that is legally compliant, technically credible, and aligned with County, regional, and state policy objectives. Furthermore, the team recognizes that the products of this effort will not simply be another carbon accounting report. It will be a study used by numerous County departments and partner agencies as they seek to track progress towards the RCAP goals and objectives, optimize carbon sequestration strategies, inform CEQA analyses and conservation planning efforts, and more.

5. Scope of Work

The Scope of Work describes how the ICF team will deliver the Humboldt Countywide Natural and Working Lands (NWL) Carbon Stock Inventory and Carbon Sequestration Feasibility Study, organized around the three tasks defined in Section II of RFP PLN2026-01:

1. Project Planning Framework,
2. Countywide NWL Carbon Stock Inventory and Summary Report, and
3. Carbon Sequestration Feasibility Study and Final Study Report.

The core objective of this project is to develop a quantified understanding of the carbon pools and sequestration capacity in Humboldt County. Our approach is designed to first build a shared understanding of the County's needs, available data, and existing studies, and to use that understanding to select the most defensible, Humboldt-specific methodology. All work will be aligned with the IPCC Guidelines for National GHG Inventories and the California Air Resources Board (CARB) Natural and Working Lands framework so that results are credible under CEQA, consistent with AB 32, SB 32, AB 1757, and AB 1279, and ready for integration into the 2030 update



to the Humboldt County Regional Climate Action Plan (RCAP) and repeatable in future RCAP cycles.

Task 1 – Project Planning Framework

Task 1 establishes the technical and administrative foundation for the Project. The ICF team will confirm objectives and roles with County staff, refine the guiding questions in the General Approach Table of the RFP, engage local landowners and other key community stakeholders, and review relevant existing inventories, datasets, plans, and policies. The outputs of Task 1 include a finalized Project Scope, a Stakeholder Engagement Plan, and a Literature and Data Review that together inform methodology selection in Task 2 and best management practice (BMP) selection in Task 3.

Task 1.1. Project Management

ICF’s Project Manager will lead day-to-day project management, which includes budgeting, schedule and task tracking, risk management, internal QA/QC oversight, team coordination, and monthly virtual coordination meetings with the County.

ICF will organize a 1-2 hour virtual Kick-Off Meeting with County staff targeted for mid-July, shortly after contract commencement. The meeting will address the topics required in the RFP: identification of key project stakeholders and preferred methods of contact; review of the project scope and literature/data and regulatory review approach; data collection process, available data sources, and potential gaps; communication methods, and deliverable file formats. ICF will circulate a draft agenda, lead the discussion.

Within 30 days of the Kick-Off Meeting, ICF will deliver a Final Project Scope (MS Word or MS Excel, per County preference and ICF recommendation) that includes an updated General Approach Table reflecting any refinements to the six guiding questions, any additional guiding questions identified with County staff, the corresponding non-narrative outputs, and an updated deliverable list. Any iterative changes to task deliverables will occur within the scope, assumptions, and level of effort defined for each task, with any material changes addressed through mutual agreement.

Deliverable	Proposed Delivery Month
Monthly Coordination Meeting Agendas	Monthly
Kick-off Meeting Agenda and Summary	July 2026
Final Project Scope (MS Word, 10 pages)	July 2026

Task 1.2. Stakeholder Engagement

Core staff for this task will include ICF’s subcontractor, John Nickerson of Dogwood Springs Forestry who is based in Mendocino County, Dr. Jordan Mason who is based in Humboldt County, and Hazelle Tomlin. The ICF team will support the County in engaging local landowners and stakeholders to ground-truth the Inventory and inform the Feasibility Study. The ICF team will design and facilitate one public meeting of up to 4 hours (in person or hybrid, at the County’s



preference) to gather information from local landowners on existing land management practices and to identify candidate management practices and barriers to implementation. To do this, the ICF team will:

- **prepare a Stakeholder Engagement Plan** that outlines:
 - o a draft target audience including specific contacts and contact details (e.g., private commercial timberland owners, agricultural producers, Tribal governments, federal and state land managers, conservation partners, and the North Coast Resource Partnership),
 - o a draft agenda including an overview of content and key roles for County staff input (such as who will be in charge of sending invitations)
- **finalize the Stakeholder Engagement Plan**, addressing County staff input, including finalizing the schedule and meeting content,
- **support County staff in sending the invitations**,
- **prepare meeting materials** (context presentation, handouts, comment form, sign-in sheet) for County to print,
- **facilitate the meeting and present relevant context**, and
- document findings in a **Stakeholder Engagement Summary** that feeds Task 3.

Deliverables will be the draft and final Stakeholder Engagement Plan, and final Stakeholder Engagement Summary.

Deliverable	Proposed Delivery Month
Stakeholder Engagement Plan (MS Word, 3 pages)	July 2026
Stakeholder Engagement Summary	November 2026

Task 1.3. Literature and Data Review of Related Plans, Studies, Policies, Laws and Regulations

ICF will conduct a structured review of existing data, calculation methods and emissions and removals (carbon stock change) factors, other relevant literature, and the policy and regulatory environment relevant to the Project. The review will build on the County’s preliminary list, discussion with the County at project kickoff, and will be expanded through ICF’s expertise and research. Sources will include but are not limited to:

- **GIS and spatial data:** 2025 LANDFIRE vegetation and disturbance data; 2017 and 2021 LEMMA Structure and Species maps; the 2014–2018 USFS Forest Biomass raster dataset; USFS Forest Inventory & Analysis data; the NRCS gSSURGO database and Soil Organic Carbon Stock Monitoring Guidance; the 2025 MRLC National Land Cover Database (NLCD); i-Tree Landscape; the County’s GIS data library (including fire hazard data, natural resources data, and LiDAR data, etc.);
- **Methods:** the 2019 Refinement to the IPCC 2006 Guidelines for National GHG Inventories (Volume 1, Volume 4); the 2013 IPCC Wetlands Supplement; COMET methods including the Quantifying Greenhouse Gas Fluxes in Agriculture and Forestry: Methods for Entity Scale



Inventory; the EPA Inventory of U.S. Greenhouse Gas Emissions and Sinks (LULUCF chapter and supporting appendix information); the USDA Forest Service U.S. Forest Carbon Accounting Framework; the NOAA / Blue Carbon Initiative Coastal Blue Carbon Methods;

- **Carbon stock change factors and comparison sources for estimate validation:** the 2025 update to the CARB Natural and Working Lands Carbon Inventory annual biomass and carbon stock change factors for Humboldt County between 2001 and 2022; the 2017 NCRP Carbon Inventory Estimates for the North Coast; prior experience conduction emissions and removals analyses in the area;
- **Laws, rules and regulations:** AB 32 (2006), SB 32 (2016), AB 1757 (2022), and AB 1279 (2022);
- **Plans and policies:** the California Climate Smart Lands Strategy; 2025 RCAP;
- **and other relevant regional studies**, for example the 2020 Lawrence Livermore National Laboratory Getting to Neutral Report; the 2019 Humboldt County Community Wildfire Protection Plan; or the 2022 Sea level rise vulnerability assessment for State wildlife areas surrounding Humboldt Bay, northern California.

Where relevant, sources will be evaluated for:

1. method relevance for Humboldt County specific context (Task 2 – Inventory, method selection)
2. whether they present existing emissions and removals stocks or change estimates (guiding questions 1 and 2, Task 2 – Inventory, estimate validation);
3. what land management and stewardship practices are utilized, by whom and where, and to record any documented effects on carbon stocks (guiding questions 3, 4 and 6, Task 1 – Stakeholder engagement, and Task 3 – Feasibility study);
4. wildfire and other climate hazard risks, and to record spatial differences in documented vulnerabilities (guiding questions 5 and 6, Task 1 – Stakeholder engagement, and Task 3 – Feasibility study);
5. any information on associated costs or barriers to implementation of land management and stewardship practices that have documented positive impacts on enhancing carbon sequestration or avoiding unnecessary carbon losses over time (guiding question 6); and
6. additional questions identified in the Final Project Scope as outlined in Task 1.1.

ICF anticipates the timing of this review will crossover with the stakeholder engagement and therefore questions and resources that will inform stakeholder engagement will be prioritized. Deliverables will be a Library of Resource Materials in MS Excel listing each source with author/organization, date of publication, access information, and key fields, and a Data Review Summary in MS Word that briefly summarizes each resource and explains how it will inform the Project. The summary will close with a recommended methodology direction that is carried into Task 2.

Deliverable	Proposed Delivery Month
Library of Resources (MS Excel, matrix)	October 2026
Microsoft Word Review Summary (MS Word, up to 30 pages)	November 2026



Task 2 – Humboldt Countywide Natural and Working Lands Carbon Stock Inventory and Summary Report

Based on the review and stakeholder engagement findings from Task 1, the ICF team, including ICF's subcontractor Dogwood Springs Forestry, will select the most appropriate methodology for Humboldt County's Natural and Working Lands Carbon Stock Inventory, ensuring the quantified baseline is relevant for existing and potential best management practices that will be modeled under Task 3. The ICF team will calculate existing above- and below-ground biomass and soil carbon stocks for a year agreed upon with County staff based on data availability, likely 2025, analyze 10-year change in emissions and removals, evaluate stability under wildfire and other climate hazards, and document the results in a Draft and Final Inventory Report supported by a repeatability protocol.

Task 2.1. Determine Best Methodology

The ICF team will recommend a transparent methodology that follows an industry standard five step process:

- STEP 1: Develop land classification scheme
- STEP 2: Determine relevant management practices and other key characteristics
- STEP 3: Determine relevant carbon pools and disturbances
- STEP 4: Choose appropriate methodology to estimate CO₂ emissions and removals
- STEP 5: Sum CO₂ emissions and removals and non-CO₂ emissions

Specific data sources, and GIS software and mathematical equations will be confirmed during methodology selection; the examples noted are illustrative of the options ICF will weigh. ICF will work closely with Dogwood Springs Forestry throughout the development of this methodology to ground selections in current local knowledge of Humboldt's forests and land management context. The methodology will be aligned with IPCC guidance and consistent with the conventions used in the U.S. National GHG Inventory and the CARB NWL Inventory. The method will be chosen based on available Humboldt-specific data and be no more complex than necessary based on the ICF team's understanding of County staff capacity and time to conduct future inventories as informed by County staff. As ICF works through methodology selection, findings will be presented at regular project check-ins for County review and feedback, with any changes in scope, overarching project assumptions, or material changes addressed through mutual agreement. Key considerations for the five steps are outlined below.

STEP 1: Develop land classification scheme

- **Classify land use areas by climate, ecological zone, soil type, and land use.** The ICF team will define a land classification scheme that captures the land use categories called out in the RFP: forest land (natural and timberlands), wetlands, grassland, agricultural lands, developed land, and other land use categories as appropriate. Further, this framing will allow



results to be disaggregated by public versus private ownership and by County-owned land. Data will include the GIS and remote sensing data outlined under Task 1.3, and any additional sources identified through the review. Classification will be aligned with:

- **IPCC climate classification:** Boreal, Cold temperate dry; Cold temperate wet, Warm temperate dry, Warm temperature moist, Tropical dry; etc.
 - Based on mean annual temperature (MAT), elevation, mean annual precipitation (MAP), mean annual precipitation to potential evapotranspiration ratio (MAP:PET), and frost occurrence
- **IPCC ecological zone classification:** Tropical Rainforest, Tropical shrubland, Temperate continental forest, Subtropical dry forest etc.
- **IPCC soil classification:** High Activity Clay Mineral; Low Activity Clay Mineral; Organic Sandy Mineral; Spodic Mineral; Volcanic Mineral; Wetland Mineral
 - Classify based on Soils classified based on World Reference Base for Soil Resources (WRB) classification, USDA soil taxonomy, or IPCC soil classes (see Figure 1 and Table 1 on page 16)
- **Finalize and define land use categories:** These should be unique functional definitions, i.e. from the data attributes that were used to filter different land-use types. IPCC's Approach 2 uses 36 categories e.g., forest remaining forest, forest converted to crop, grass, wetlands, settlement, and other lands etc., but it may be deemed that more or less land use categories, aligned with the NCRP 2017 or CARB 2025 inventories is a better choice for Humboldt County.

STEP 2: Determine relevant management practices and other key characteristics.

- Determine age-class distribution of forests. This determines which growth factors are applied in the gain-loss method, with younger trees accumulating carbon more quickly than mature, slow-growing trees.
 - Noting here that "young" and "mature" will need to be defined on both economic and biological terms. Economic rotations sit around 50 years for most managed stands, while biological carbon accumulation maturity runs much later; for redwood, culmination of mean annual increment may not occur until well past 1,000 years.
- Non-forest management characteristics such as perennial woody crops; improved/unimproved grassland etc.

STEP 3: Determine relevant carbon pools and disturbances

- Carbon pools:
 - Forest: above- and below- ground biomass, dead organic matter*, and soil carbon
 - Cropland: above-ground biomass, dead organic matter*, soil carbon
 - Grassland: above-ground biomass, dead organic matter*, soil carbon
 - Wetlands*: aboveground biomass, belowground biomass, dead organic matter*, soil carbon



- Settlements: above-ground biomass, soil carbon
- Harvested wood products
- Disturbances
 - Forest & Grassland: Biomass burning (e.g., wildfires)

*Notes on assumed scope based on interpretation of the RFP:

- Non-CO₂ emissions occur in wetlands under certain circumstances (IPCC 2013 Wetlands Supplement). ICF is assuming these are outside the scope of this analysis and has not budgeted for these emissions sources. ICF can discuss a scope and budget for this if Non-CO₂ emissions from wetlands are of interest.
- The ICF team recognizes that estimating carbon stocks and dynamics in the dead organic matter pool (including standing dead trees, downed coarse woody debris, and dead roots) is subject to substantially higher uncertainty than live biomass and soil carbon pools. Dead organic matter quantities are highly variable across landscapes and even between stands with similar vegetation types, reflecting differences in disturbance history, time since disturbance, mortality inputs, decay rates, and management practices. In addition, uncertainties in transfer rates from dead organic matter to litter and soil pools, and associated emissions, are generally high. As a result, the feasibility and analytical value of including dead organic matter carbon estimates depends strongly on the intended use of the results, available data, and the acceptable balance between methodological complexity, uncertainty, and level of effort. During Task 2.1 (methodology determination), ICF will work with County staff to confirm whether and how dead organic matter carbon stocks should be included in the inventory, and at what level of detail (e.g., reliance on default factors versus more refined approaches). The final scope and budget implications for estimating dead organic matter carbon will be discussed and documented as part of method selection, ensuring transparency around assumptions, uncertainty, and analytical tradeoffs.

STEP 4: Choose appropriate methodology to estimate CO₂ emissions and removals. This will be informed by Tasks 1.2 and 1.3 and resulting knowledge of data availability and local management practices, as well as from conversations with County staff to understand carbon stock estimation priorities.

- Biomass (above and belowground): Forest, cropland and grassland
 - Stock-Difference Method
 - Measures the change in biomass carbon stocks by comparing the carbon stock inventory at two different points in time. Suitable for approaches 2, 3 using NFI (for forests) and carbon stock assessment activities data.
 - IPCC Volume 4, Chapter 2, Equation 2.15
 - Gain-Loss Method



- Estimates changes in biomass carbon stocks by calculating the net balance of gains (e.g. growth) and losses (e.g. harvest, mortality, losses from disturbances like pests, fires, and extreme weather events) over a specific period. Suitable for approaches 1, 2, 3 using IPCC default or country specific data.
 - IPCC Volume 4, Chapter 2, Equation 2.7
- Carbon stock changes in Dead Organic Matter (DOM): Forest, cropland, grassland and settlements
 - IPCC Volume 4, Chapter 2, Equations 2.17, 2.23
- Soil Organic Carbon (SOC): All land uses
 - IPCC Volume 4, Chapter 2, Equations 2.24, 2.25, 2.26
- Biomass burning (non-CO2 emissions): Forest, grassland
 - IPCC Volume 4, Chapter 2, Equation 2.27

STEP 5: Sum CO2 emissions and removals and non-CO2 emissions

- Sum emissions and removals over the inventory period for each category by land use and stratum.
- Calculate annual carbon stock changes by land use categories (IPCC Volume 4, Chapter 2, Equations 2.1, 2.3 summarize all required variables)

The recommended method will be provided to County staff in the format of a memo. The memo will form the basis for methodology documentation in the inventory report.

Deliverable	Timeline
Draft inventory method memo	December 2026

Task 2.2. Calculate Carbon Sequestration of Land/Carbon Types

Once the methodology is finalized under Task 2.1, the ICF team will execute the spatial analysis that produces the 2025 and 2015 carbon stock estimates to answer **guiding questions 1-4**. This workflow draws on the data sources cataloged in Task 1.3 and the pools, factors, and equations confirmed in Task 2.1. Analysis will be raster-based at a resolution confirmed with County staff (likely 30m to match LANDFIRE and NLCD), with vector overlays for ownership and County-owned parcels. The steps below describes a general process to build spatial products and links each process stage to how County staff’s guiding questions will be answered.

- **Assemble and harmonize input layers.** Reproject all spatial inputs to NAD83 California Albers, resample to the 30m analysis grid consistent with LANDFIRE (nearest-neighbor for categorical layers, bilinear for continuous), and clip to the County boundary. Build a separate ownership/jurisdiction mask that breaks out private, federal, state, tribal, and County-owned parcels so every output can be summarized at those breakdowns.
- **Build land classification rasters for both time points.** Apply the classification scheme from Task 2.1 Step 1 to the 2025 and 2015 inputs, producing two classified rasters covering



the IPCC categories with subclasses for management practice and forest age class where data supports it. Overlay the IPCC soil classes derived from gSSURGO to create the stratification grid used for SOC factors. Document all reclassification crosswalks for later delivery.

- **Generate stock rasters.** Apply the per-land-type methods described below to produce per-pixel stock rasters for aboveground biomass, belowground biomass, and soil organic carbon at both time points.
- **Calculate change.** Difference the 2025 and 2015 stock rasters by pool to produce a net change raster. Build a land use change matrix from the two classified rasters that flags every pixel as either stable in cover or converted between IPCC categories.
- **Aggregate.** Run zonal statistics over the ownership mask and the County-owned parcel layer to summarize stocks, per-acre stocks, annualized sequestration rates, and 10-year change by land use category, land cover type, public versus private ownership (with federal, state, and tribal called out), and County-owned land.
- **Validate.** Compare countywide totals against the 2025 CARB NWL Inventory values for Humboldt County and the 2017 NCRP North Coast estimates. Flag pixels with stock or change values outside expected ranges and review the underlying classification before accepting results.
- **Visualize.** Develop a dedicated map series using standardized and agreed upon format.

Above- and below-ground biomass and soil organic carbon. In alignment with the method selected in Task 2.1, ICF will estimate biomass and soil organic carbon using methods appropriate to the data available for each land type, consistent with the 2025 CARB NWL inventory and other California NWL inventories (Sonoma County, Contra Costa County, Bay Area Air Quality Management District, North Coast) and to answer **guiding question 1** (existing carbon stocks). This proposal response reflects a likely approach to carbon stock estimation based on ICF's understanding of industry standards, data sources, and Humboldt County's specific local context. Key information is presented for each land cover type, with alternative approaches identified where data availability or resolution may require flexibility. Final method selection for carbon quantification will be made under Task 2.1 based on data availability and quality and will be agreed upon with County staff.

ICF's recommended approach to quantifying **forested** land, contingent on high-quality regional carbon stock values being available for the relevant vegetation types, will involve matching LANDFIRE Existing Vegetation Type, Height, and Cover layer values from 2025 to publicly available, regionally-specific, published carbon stock values; creating a wall-to-wall carbon estimate, likely at 30m resolution. This is likely the highest-quality estimate, provided high-quality published values exist. If those estimates aren't available, ICF may decide to use carbon density estimates by forest type and stand condition from the USFS Forest Inventory and Analysis program (FIA). FIA carbon density values are derived from species- and region-specific allometric equations applied to inventory plot measurements, providing a methodologically grounded foundation for forest



biomass estimation. Further, ICF could use the USFS Forest Biomass raster as a forest density lookup table, reading carbon stock directly from the raster rather than matching vegetation type to a density value. Where LiDAR coverage is sufficient, ICF will incorporate LiDAR-derived canopy metrics to improve resolution on forest biomass estimates. Soil carbon for forested land will draw on gSSURGO paired with IPCC and U.S. Inventory stock-change factors.

For **grasslands and shrublands**, ICF will expect to use LANDFIRE aboveground biomass values, paired with root-to-shoot ratios from published California-specific literature to estimate total biomass carbon stock. Where LANDFIRE values are unavailable or unreliable for a given vegetation type, ICF can apply allometric equations to derive aboveground biomass from canopy structure and pair those with root-to-shoot ratios for belowground estimation. Soil carbon will be estimated from gSSURGO paired with IPCC and U.S. Inventory stock-change factors.

For **wetlands**, methodology will differ by type. Tidal wetlands will be estimated using Coastal Blue Carbon methods, which account for the high soil carbon stocks characteristic of those systems. Freshwater wetlands will draw on gSSURGO paired with IPCC Tier 2 factors, with biomass estimated from LANDFIRE where vegetation is sufficiently characterized.

For **developed land**, i-Tree canopy tools will be used in place of LANDFIRE's canopy layer, which tends to undercount fragmented and street-tree cover typical of developed areas.

For annually harvested **agricultural lands**, like cannabis, biomass will be treated as negligible, in keeping with the CARB methodology¹. This is because within a year, crop growth equals what's removed at harvest, so net biomass stock change is zero. Perennial woody crops (orchards, vineyards) is not negligible, and will be quantified using LANDFIRE and carbon stock values from published literature. For agricultural soil carbon, gSSURGO soil carbon estimates will be the primary input.

During this process the ICF team will be mindful to ensure that we are not double-counting when using a variety of data sources. Final selections will be justified in the Methodology Memo, and all crosswalks between published values and raster data will be delivered in a separate document (Excel) for reproducibility.

Uncertainty Analysis. ICF will conduct a quantitative uncertainty analysis on the 2025 and 2015 carbon stock estimates to identify the uncertainty associated with the estimated carbon stocks and change detection layers, in alignment with all source specific uncertainty estimation methods provided in IPCC guidance, and industry standard methods. Methods to calculate uncertainty may include uncertainty methodologies used in the US GHGI, which ICF has led for over 34 years, and

¹ <https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/NWL%20Inventory%20Report%20Website.pdf>
595 Market Street, Suite 950, San Francisco, CA 94105 USA | icf.com

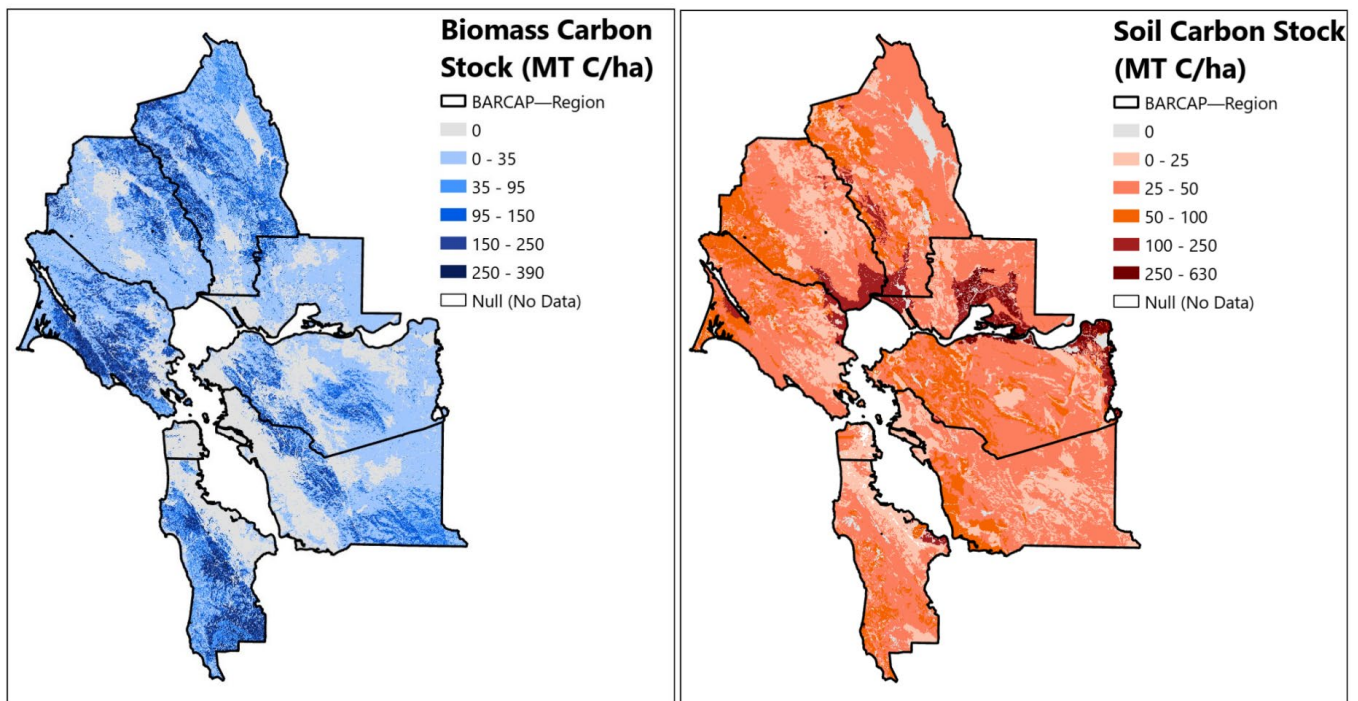


will be aligned with CARB methods where possible. ICF will identify the most appropriate approach that aligns with each layer and conduct uncertainty analysis accordingly.

Ten-year change analysis. ICF will produce a stock-change analysis covering the most recent approximately 10-year window using IPCC stock-difference and/or gain-loss methods as appropriate, drawing on multi-year land cover, FIA, fire perimeter, and harvest data to attribute changes to land-use/land-cover transitions, management changes, and disturbances. Resulting stock-change estimates will be benchmarked against the 2025 CARB Natural and Working Lands Carbon Inventory's annual biomass and carbon stock change factors for Humboldt County (2001–2022) to validate magnitudes and trends, with any divergences flagged and differences documented. ICF will include a narrative on the ten-year change in the inventory report (Task 2.3., **guiding question 2**) based on information gathered from the literature review (Task 1.2.) and community engagement (Task 1.3.) as to why carbon stocks may have increased (**guiding question 3**) or decreased (**guiding question 4**) in particular regions.

Mapping and GIS deliverables. ICF will deliver a geospatial package containing all GIS layers from inventory development and resultant analyses delivered in standard formats (.ppkx files). All static, layout maps and charts will be delivered in .pdf or .doc format. See Exhibit 4, below, for a recent example of Mapping/GIS deliverables.

Exhibit 5: Quantification of above- and below-ground carbon stock from the Bay Area Air Quality Management District 2022 NWL Inventory





Deliverable	Timeline
Inventory estimates including dashboard suitable tables, graphs and maps, and ten-year change	May 2027
Uncertainty estimates	May 2027

Task 2.3. Carbon Stock Stability Analysis (Carbon Stock Vulnerability)

ICF will evaluate localized impacts from climate and natural hazards including wildfire and sea level rise to evaluate the stability of existing carbon stocks and answer **guiding question 5**. To accomplish this, ICF will analyze and apply new, authoritative downscaled Coupled Model Intercomparison Project Phase 6 (CMIP6) climate hazard projections for wildfire, sea level rise, and other hazards that were developed in support of California’s forthcoming Fifth Climate Change Assessment. Specifically, ICF will evaluate 2-4 hazards relevant to carbon stock impacts, as agreed upon with County staff, such as area burned by wildfire and permanent inundation from coastal flooding, at a high spatial resolution grid (e.g., 3km or 10m, depending on the hazard) across the County for both present-day conditions and a future time horizon (Task 3). ICF will evaluate potential changes in additional hazards such as sudden oak death and boring beetle prevalence as prioritized and to the degree possible given publicly available datasets for the State. ICF will supply the County with all hazard datasets generated for the stability analysis, including those related to wildfire probability, burned area, and coastal flooding.

ICF will overlay geospatial wildfire and other climate hazard data with the carbon stock maps generated for 2025 and 2015 to assess carbon stock vulnerability. Similarly, ICF will also generate future risk information from available modeled data, which can then be applied to the projected carbon stock maps produced in Task 3. Outputs from this task will include hazard maps, and carbon stock map overlays. A narrative interpretation of the results of this task will be included in the inventory report.

Deliverable	Timeline
Data tables, charts and graphics illustrating carbon stock stability	September 2027

Task 2.4. Draft Carbon Stock Inventory Report

ICF will prepare a Draft Inventory Report that summarizes the Inventory’s analysis in text, tables, and graphics, communicates complex science clearly to a non-technical public audience, and clearly responds to all applicable Guiding Questions presented in the RFP. The report will include maps, visualizations (graphs), and summary tables, and will clearly describe key findings (using the most effective communication language for non-technical and public audiences) suitable for use as dashboard metrics on County websites in an Executive Summary. To ensure flexibility, ICF will prepare a report outline for County staff feedback prior to conducting Task 2.2 estimates, and the report outline will inform estimates. ICF will reconfirm the report outline following Task 2.2 and Task 2.3 to ensure any relevant new content or sections are included and that the process is iterative. Generally, the inventory report will include:



- **Biomass and soil carbon stock methodologies**, building directly from the Task 2.1 memo and including any changes made during implementation of the methodology.
- **Results of the carbon stock and ten-year change analysis** (guiding questions 1–4, including countywide totals, 10-year change, and locations/drivers of increases and decreases, broken down by land use, land cover type, ownership, and County-owned land, as estimated under Task 2.2).
- **Uncertainty estimates and method documentation** as detailed under Task 2.2.
- **Stability and vulnerability assessment (guiding question 5)** including how wildfire, climate hazards, and other human and non-human drivers present vulnerability in existing carbon stocks (task 2.3).
- A full documentation of **quality assurance, quality control and verification processes** ICF undertook across all relevant aspects of the Humboldt Countywide Natural and Working Lands Carbon Stock Inventory.

The Draft Inventory Report will be delivered to the County for review at least one month prior to finalization. ICF will incorporate County feedback into a Final Inventory Report.

Inventory Archive: ICF will also provide complete supporting documentation and underlying data, notes, calculations, spreadsheets, uncertainty quantification and assumptions, methodology rationale, scientific references, and the software tools and data inputs, used together with documentation of the QA/QC implemented, drawing on the QA/QC procedures ICF uses for other projects, including the U.S. national GHG inventory.

Deliverable	Timeline
Draft inventory report (up to 50 pages excluding appendices)	September 2027
Inventory Archive	September 2027

Task 2.5. Future-Update Instructions

After completion of the Final Inventory Report, ICF will compile a clear, concise (up to 5 pages) set of instructions detailing how County staff can update the carbon inventory in the future. The instructions will list the specific data input to collect, the source and access method for that input, the workbook or script that processes it, the expected output, and the QA/QC check that confirms the step was completed correctly. The instructions will close with a discussion of foreseeable challenges, including data discontinuities (e.g., LANDFIRE product version changes), methodology updates (e.g., revisions to CARB NWL Inventory factors). A short overview of the archive delivered in the prior subtask will be included so staff can locate the underlying data, calculation workbooks, and reference materials referenced throughout the protocol.

Deliverable	Timeline
2.3. Instructions for updating the inventory (up to 5 pages)	November 2027



Task 3 – Carbon Sequestration Feasibility Study and Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report

Task 3 translates the Inventory results into a forward-looking Feasibility Study that identifies where and how Humboldt County can enhance carbon sequestration through land management, restoration, and policy actions, and combines the Inventory and Feasibility Study into a single Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report. Task 3 also includes the public review process and presentation to the Board of Supervisors.

Task 3.1. Business as Usual Baseline (Estimated 2045 Carbon Stocks)

ICF will project a 2045 Business as Usual (BAU) carbon stock baseline for Humboldt County to serve as the reference point against which modeled best management practice impacts (Task 3.2) are compared. The 2045 horizon matches California's statewide carbon neutrality target codified in AB 1279 (2022) and the goal year of the 2025 Humboldt RCAP, so the baseline directly supports tracking County progress against both State and County climate commitments. AB 32 (2006) and SB 32 (2016) further frame the trajectory of expected statewide reductions through this window. The BAU represents continuation of current land management and land use patterns, current disturbance regimes (e.g., recent decadal fire activity), and no new policy or BMP intervention. ICF will build the projection in two steps:

1. **Establish a BAU projection of carbon stocks using Task 2 outputs.** The 10-year change analysis from Task 2.2 yields per-land-cover, per-pool annual stock change rates specific to Humboldt County. ICF will hold these rates constant from the 2025 baseline forward to 2045 as the starting projection.
2. **Validate against CARB's longer record and adjust as needed.** The 2025 CARB Natural and Working Lands Carbon Inventory publishes annual biomass and carbon stock change factors for Humboldt County covering 2001–2022, a 22-year record that captures more disturbance and recovery cycles than the 10-year window. Building on the 2015 to 2022 years compared for Task 2.2 ten-year change analysis, ICF will reconcile any meaningful divergences by either (a) adjusting the projected rate to better reflect the longer record, (b) flagging the divergence as a structural difference between the methodologies, or (c) running parallel high and low projections to bracket the BAU range.

The reconciled rates will be applied to the final 2045 BAU carbon stock estimate by land use category, ownership, pool, and County-owned land, matching the breakdowns used in Task 2. The result will be presented to County staff for review and confirmed as the baseline against which BMP scenarios are evaluated in Task 3.2.

Deliverable	Timeline
Baseline projections through 2045	May 2028



Task 3.2. Feasibility Study (Best Management Practices)

The Feasibility Study will respond directly to Guiding Question 6 in Table 1 and will include the following components:

BMP identification by land type. Informed through stakeholder engagement and the literature review, the ICF team will identify feasible BMPs across industrial, non-industrial, and family forestland, agricultural lands, grasslands, and wetlands. Specific practices will be drawn from ICF's expertise assessing mitigation measures for state and local clients Climate Pollution Reduction Grant Climate Action Plan efforts and sources such as the California Climate Smart Lands Strategy, Natural Climate Solutions (Griscom et al.), USDA NRCS practice standards, and prior North Coast work. Practices will be screened for applicability to Humboldt County's conditions, ownership patterns, and regulatory context, but will include strategies such as improved forest management strategies to enhance carbon sequestration over the long-term (20 years or greater); riparian, grassland, and woodland restoration; increased urban canopy cover; any relevant coastal wetland management or restoration strategies; and restoring historical fire regimes to avoid large burn events and huge carbon stock losses and release of greenhouse gas emissions from combustion.

Scenario modeling. Using the methodology and calculation framework established in Task 2, ICF will model the change in carbon sequestration potential under a defined set of scenarios for the best management practices informed by stakeholder engagement and agreed upon with County staff, across a planning horizon aligned with the RCAP and AB 1279 carbon neutrality target. Tools may include but are not limited to COMET-Planner, i-Tree Landscape, FVS (Forest Vegetation Simulator), and customized spreadsheet/spatial models, with selections justified in the report. For commercial timberland, FVS will be used alongside LEMMA forest structure data to model how thinning schedules, rotation lengths, and species composition affect carbon trajectories and stock stability over time, providing the trade-off analysis between harvest economics and long-term carbon goals most relevant to Humboldt County's working forests. Modeling will cover up to five BMPs, each evaluated under up to three scenarios (e.g., low, moderate, and aggressive adoption or implementation intensity). Outputs will be delivered as maps and summary tables.

Cost and barrier analysis. ICF will conduct a simple cost analysis for each BMP, drawing on marginal abatement cost approaches and ICF's prior work for USDA and EPA on agricultural and forestry mitigation potential. The analysis will identify implementation costs, co-benefits, likely funding pathways, and key barriers (regulatory, economic, technical, social, Tribal sovereignty considerations, and landowner adoption). Landowner adoption barriers will be informed directly by stakeholder engagement conducted in Task 1.

The logic process behind each BMP assessment will be articulated in the report; including the assumptions feeding cost estimates, how co-benefits and barriers were weighed, and how those factors combine to produce an expected adoption range so that adoption assumptions are



transparent and traceable. Making this reasoning explicit gives the team a defensible basis for prioritizing BMPs in mitigation scenarios.

Deliverable	Timeline
Feasibility Study Carbon Stock Projections and Best Management Practice Estimates (including dashboard suitable tables, graphs and maps)	May 2028

Task 3.3. Draft Carbon Sequestration Feasibility Study Report

The ICF team will draft a Feasibility Study Report that summarizes strategies and best management practices (BMPs) for sustainable and enhanced carbon sequestration across Humboldt County’s natural and working lands and that calculates the size of the additional carbon sink that BMPs can provide. Using a similar approach to the draft carbon stock inventory report under Task 2.4, ICF will prepare a draft feasibility study outline for County staff feedback. The draft outline will consider how to present results of the feasibility study under the understanding that it will be appended to the carbon stock inventory report. ICF expects the feasibility study report will include at least:

- how the analysis is informed by the inventory modeling from Task 2, and links to relevant sections of the inventory report,
- the BAU carbon stock projection for 2025–2045 and describe the process for the BAU development
- an overview of the process and logic for selecting BMPs to model, including relevant justifications from evidence compiled in the review (Task 1.3.) and community engagement (Task 1.2.),
- an interpretation of the BMP modeling results, key limitations and qualitative assessment of uncertainties, and
- a qualitative discussion of BMP implementation costs.

Response to Guiding Question 6. The Feasibility Study will produce data tables summarizing carbon sequestration potential under each scenario and maps and descriptions of regions and property types where specific activities have the greatest carbon sequestration benefit, fully responding to Guiding Question 6. ICF will also provide tables, graphs and maps in a format suitable for County staff to insert in any relevant dashboard.

Deliverable	Timeline
Draft Feasibility Study	September 2028

Task 3.4. Public Review Process and Final Feasibility Study Report

ICF will combine the Feasibility Study Report with the Final Inventory Report (from Task 2) as an attachment to produce a single Draft Humboldt Natural and Working Lands Carbon Stock and Management Study Report for County review and feedback and as the complete draft report for public review.



The Draft Humboldt Natural and Working Lands Carbon Stock and Management Study Report will be released by the County for a 30-day public review period. The County will consolidate public comments and provide them to ICF. ICF will work with County staff to address each comment.

ICF will then assemble the Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report, incorporating all elements of the previous deliverables, the Final Inventory Report including the QA/QC and uncertainty documentation, the Feasibility Study Report into a complete and comprehensive report. This iterative process will occur within the scope, assumptions, and level of effort defined for this task, with any material changes addressed through mutual agreement.

Deliverable	Timeline
Incorporation of Feasibility Study and Inventory Report for Public Review	November 2028
Addressing Public Comments	December 2028
Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report	December 2028

Task 3.5. Board of Supervisors Meeting Support

ICF will support the County's presentation of the Final Study Report to the Humboldt County Board of Supervisors for review and acceptance. The County will lead preparation of the presentation; ICF will provide content support (figures, key findings, talking points), review draft slides, and attend the Board meeting (in person or remotely, at the County's preference) to answer technical questions on methodology, findings, and feasibility recommendations.

Deliverable	Timeline
Attendance at and Support for Board of Supervisors Meeting	January 2029



6. Rates

Section 6.1. includes general information including the period of performance, the contract type and the validity period. Section 6.2. provides further information on total labor costs and other direct costs. Section 6.3. includes pricing assumptions and clarifications, intended to support County staff understand how ICF's solution, timing, resources, roles, and responsibilities formed the parameters of our estimates.

6.1 Ability to provide high-quality, cost-effective services

ICF is committed to delivering high-quality, cost-effective services by aligning staff expertise with the specific content and technical requirements of each task. Wherever appropriate, work will be performed by junior and mid-level staff at lower billing rates, under the direction of senior technical experts who provide methodological oversight and quality assurance. All draft and final deliverables will be reviewed by experienced subject matter experts to ensure analytical rigor, consistency with applicable frameworks, and suitability for County use. The eight labor categories reflected in Exhibit 7 provide flexibility to deploy staff at different levels as the complexity and nature of the work evolves, allowing ICF to manage costs while maintaining high technical standards. ICF's cost estimate is informed by our experience delivering similar natural and working lands inventories and mitigation (carbon sequestration and other emission reduction) studies and reflects our understanding of the level of effort required, the technical activities associated with each task, and the total number of deliverables anticipated, including draft and final versions.

Period of Performance

The proposed period of performance is July 2026, through January 2029, or 31 months from contract execution. ICF is available to start work prior to the proposed date as is detailed in Section 7. Timeline.



Exhibit 6: Project hourly rate schedule.

Personnel Costs	Rate: Jul 2026–Jun 2027	Rate: Jul 2027–Jun 2028	Rate: Jul 2028–Jan 2029	Description
Principal Consultant	\$320.35	\$329.96	\$339.86	Provides leadership in field of expertise, and develops solutions to complex methodological problems. Expertise makes this individual a peer of leading practitioners of his/her discipline within the company. Contributes senior advice to technical sections of client deliverables. May be known nationally and serve on expert panels.
Senior Consultant III	\$276.08	\$284.36	\$292.89	Provides technical leadership in field of expertise, and develops solutions to complex methodological problems. Expertise makes this individual a peer of leading practitioners of his/her discipline within the company. Contributes to technical sections of client deliverables.
Senior Consultant II	\$232.80	\$239.78	\$246.97	Senior manager responsible for technical and overall management of projects. Acts as primary quality control for projects. Supervises project staff. Establishes priorities for current and proposed projects. Prepares and administers overall budgets. Responsible for coordinating personnel allocation on various projects. Maintains ongoing contact with clients. Provides leadership in field of expertise, and develops solutions to complex methodological problems. Contributes to technical sections of client deliverables.
Subject Matter Expert	\$201.54	\$207.59	\$213.82	Provides leadership in field of expertise, and develops solutions to complex methodological problems. Expertise makes this individual a peer of leading practitioners of his/her discipline within the company. Contributes senior advice to technical sections of client deliverables. May be known nationally and serve on expert panels.
Senior Consultant I	\$189.13	\$194.80	\$200.64	Manager responsible for technical and overall management of projects. Acts as primary quality control for projects. Supervises project staff. Establishes priorities for current and proposed projects. Prepares and administers overall budgets. Responsible for coordinating personnel allocation on various projects. Maintains ongoing contact with clients. Provides leadership in field of expertise, and develops solutions to complex methodological problems. Contributes to technical sections of client deliverables.



Consultant II	\$165.38	\$170.34	\$175.45	Responsible for technical and task management of projects, including providing quality control, supervising project staff, preparing and administering budgets, and maintaining contact with clients.
Consultant I	\$131.94	\$135.90	\$139.98	Responsible for technical and task management of projects, including providing quality control, supervising project staff, and maintaining contact with clients.
Junior Consultant II	\$116.54	\$120.04	\$123.64	Works under limited supervision and with a focus on technical and quantitative projects. Possesses a strong background in technical area of expertise and/or quantitative skills. Prepares draft sections of deliverables and presentations. Incorporates review comments into draft and final technical and quantitative analysis deliverables. Coordinates progress with other work team members. Performs relatively advanced tasks that involve engineering, modeling, and related quantitative analysis, which involve the use of complicated spreadsheets and regional economic models, statistical analysis, basic GIS analysis, and using computer models to perform analysis. Performs research that involves reviewing and summarizing analytical reports on relevant topics, and performs analysis that requires strong spreadsheet skills. Reviews the work of more junior staff.
Junior Consultant I	\$102.55	\$105.63	\$108.80	Works under supervision and with a focus on technical and quantitative projects. Possesses a strong background in technical area of expertise and/or quantitative skills. Prepares draft sections of deliverables and presentations. Incorporates review comments into draft and final technical and quantitative analysis deliverables. Coordinates progress with other work team members. Supports more senior staff with advanced tasks that involve engineering, modeling, and related quantitative analysis, which involve the use of complicated spreadsheets and regional economic models, statistical analysis, basic GIS analysis, and using computer models to perform analysis. Performs research that involves reviewing and summarizing analytical reports on relevant topics, and performs analysis that requires strong spreadsheet skills.



Contract Type

ICF has prepared this submission on a Time & Material basis.

Validity Period

ICF's proposal remains valid for a period of 90 days from the official due date of the solicitation. ICF retains the right to review its submission and to extend its offer or to revise its proposal at the end of the 90-day period.

6.2 Invoicing/Payment

ICF will invoice on a monthly basis for hourly rates. ICF will invoice based on hours worked per month. Payment terms are net thirty (30) days from date of invoice. Hourly rates are shown in **Exhibit 6**, rates are escalated 3% per year to accommodate inflation and total increase per member of staff will not exceed 10% within the proposed period of performance per Exhibit B requirements. Total labor costs will not exceed \$366,340.92 as shown in Exhibit 7. Labor costs may shift across tasks if the project schedule and work require it, but will not shift across cost categories by more than 25% per the RFP instructions. **Exhibit 8 shows the RFP Exhibit B** cost detail including labor and proposed travel expenses; operational and indirect costs are included in personnel costs (built into rates), and transportation costs include all travel costs. ICF is not proposing other costs.

Exhibit 7: Estimated annual labor costs.

Period	July 2026 – June 2027	July 2027 – June 2028	July 2028 – January 2029	TOTAL
Total Labor	\$181,269.61	\$125,398.22	\$59,673.09	\$366,340.92

Exhibit 8: RFP Exhibit B cost detail.

Item	Cost	Description
A. Personnel Costs		
Total Personnel Costs:	\$ 366,340.92	
B. Operational Costs		
Not applicable.	NA	<i>Included in labor rates.</i>
Total Operational Costs:	\$ -	
C. Supplies		
No supplies have been included in this budget.	NA	<i>ICF assumes supplies will be provided for the public meeting by County staff.</i>
Total Supply Costs:	\$ -	
D. Transportation Costs		
Auto Rental	\$ 251.42	Kick-off meeting and Public Meeting
Lodging	\$ 460.48	Kick-off meeting and Public Meeting
M&IE	\$ 300.31	Kick-off meeting and Public Meeting
Other	\$ 232.80	Kick-off meeting and Public Meeting
Auto Rental	\$ 125.71	Board meeting
Lodging	\$ 230.24	Board meeting



M&IE	\$ 150.16	Board meeting
Other	\$ 116.40	Board meeting
Total Transportation Costs:	\$ 1,867.53	
E. Other Costs		
Not applicable.	NA	<i>ICF is not proposing other costs.</i>
Total Other Costs:	\$ -	
F. Indirect Costs		
Not applicable.	NA	<i>Included in labor rates.</i>
Total Indirect Costs:	NA	
Grand Total:	\$ 368,208.45	

6.3 Price Narrative and Assumptions

ICF’s proposal is predicated on the following additional assumptions and clarifications. These items are intended to help the County understand how ICF’s solution, timing, resources, roles, and responsibilities formed the parameters of our estimates. Although these assumptions and clarifications frame our proposal response, it is ICF’s practice to partner with our customers and resolve issues promptly, and in a manner that is beneficial to both parties. We welcome the opportunity to work with the County to address any questions or concerns that may arise before, during, or after the delivery of our proposed services.

- ICF assumes this proposal shall be incorporated by reference into the contract resultant from this RFP.
- If selected as the successful bidder, ICF looks forward to negotiating mutually agreeable contract terms and conditions.
- All project deliverables will be provided in an electronic format, Microsoft Office Suite or PDF, unless agreed upon by the ICF and the County designated project manager.
- If a delivery date falls on a non-working day, the delivery date will be the following business day.
- All days are presumed to be “business days” unless otherwise specified.
- The County is responsible for assigning a single point of contact, the designated project manager, who will consolidate and reconcile all the County comments, revisions, and feedback on all deliverables, resolve any conflicts on the deliverables, and transmit the feedback in writing to ICF.
- ICF’s allocation of effort by task and labor category reflects our best estimate for completing the scope of work. ICF reserves the right to reallocate the hours across tasks and labor categories as we see fit to complete the scope in the most efficient manner within the overall contract ceiling.
- One review cycle will be provided for all deliverables. Each review cycle will proceed as follows: The designated County project manager will review deliverables for accuracy and completeness and provide consolidated comments to ICF within 10 business days after receipt (or a number of business days agreed upon at time of contract signing between County staff and ICF). ICF shall make all necessary changes within the period of business



days agreed upon and resubmit the final deliverables. If no changes and/or comments are received from the County project manager within the period of business days as specified in the contract, the deliverables will be deemed accepted.

- ICF will work with County staff at project kick-off to understand which deliverables will be public facing and ensure the deliverables are designed appropriately for public or non-public audiences.
- When ICF receives conflicting guidance from the client, ICF will look to the client for direction to navigate the conflicting guidance.

Task 1 – Project Planning Framework

- Monthly coordination meetings: Assumes 12 virtual meetings per year and up to 7 meetings in Year 3. Hazelle Tomlin and Ann McElvein will attend all meetings, supported by key staff as needed; John Nickerson will attend during phases of his contributions.
- Kick-off meeting: Assumes a hybrid meeting format. ICF has budgeted for Hazelle Tomlin, Jordan Mayor and John Nickerson to attend in person, and Ann McElvein and up to three additional core staff to attend virtually.
- Final Project Scope: Assumes one formal delivery following County input at the kick-off meeting. Minor refinements over the project duration may occur as agreed between County staff and ICF and are not treated as separate deliverables.
- **Stakeholder engagement:**
 - ICF has budgeted for Hazelle Tomlin (travelling from Incline Village), John Nickerson and Dr. Jordan Mayor to attend the meeting in person, with up to two additional ICF staff attending virtually to document feedback and decisions.
 - Assumes the public meeting will be held at County facilities and has therefore not budgeted for meeting facility rental.
 - Assumes preparation of meeting materials including a presentation, agenda, and facilitator guide.
 - Assumes County staff will print all printed deliverables and provide any other meeting supplies such as whiteboards, projectors or screens for presentations, pens, paper etc. Printing of materials and meeting supplies are not included; ICF will coordinate with County staff regarding any needed supplies.
 - Assumes preparation of a memo summarizing stakeholder input and providing a high-level interpretation
- Literature and Data Review of Related Plans, Studies, Policies, Laws and Regulations:
 - Assumes preparation of a written summary of up to 20 pages excluding appendices and excel matrix of all data sources and descriptions.

Task 2 – Humboldt Countywide Natural and Working Lands Carbon Stock Inventory and Summary Report



- **Determine best methodology:** Assumes preparation of a methodology memorandum of up to 10 pages.
- **Carbon stocks and change analysis:** Assumes development of 2015 and 2025 (or other years per County preference) inventories, analysis of change over time, and development of 10-year stock-change factors. Deliverables include maps, GIS data layers, and charts showing existing carbon stocks countywide and by land use/land cover, ownership (public versus private), and County-owned lands.
- **Stability analysis:** Assumes evaluation of 2–4 hazards, including wildfire and other climate hazards and their impacts on biomass and soil carbon stocks estimated in Task 2, as agreed with County staff.
- **Uncertainty estimates:** Assumes tables outlining estimates, equations, and key assumptions.
- **Dashboard-suitable graphs:** Assumes preparation of tables, graphs, and maps suitable for dashboard use, not construction of a dashboard product.
- **Inventory report:** Assumes preparation of an inventory report of up to 50 pages excluding appendices.
- **Instructions for updating the inventory:** Assumes a concise update protocol of up to 5 pages describing data inputs, steps, and considerations for future updates.
- **Archive development and transfer:** Assumes delivery of a complete project archive as a zipped folder or transfer to a County-managed filing system, with an overview described in the update instructions.

Task 3 – Carbon Sequestration Feasibility Study and Final Humboldt Natural and Working Lands Carbon Stock and Management Study Report

- **Baseline projection under business-as-usual through 2045:** Assumes stock change factors developed under task 2 and CARB stock change factors are suitable for this projection.
- **Feasibility projections for land management and restoration scenarios:** Assumes evaluation of up to five best management practice categories, with data tables summarizing sequestration potential, supporting maps, and descriptions of regions or property types with the greatest opportunity.
- **Comparison with stability analysis:** Assumes a narrative comparison included in the feasibility study.
- **Cost and barrier analysis:** Assumes qualitative discussion incorporated into the feasibility study; no separate quantitative costing model is included.
- **Dashboard-suitable graphs:** Assumes delivery of dashboard-ready tables, figures, and maps only.
- **Draft feasibility study:** Assumes preparation of a draft feasibility study of up to 50 pages excluding appendices.



- **Public review draft inventory report with feasibility study:** Assumes incorporation and compilation of the draft inventory and draft feasibility study and addressing one round of County comments for each.
- **Addressing public comments:** Assumes up to 100 consolidated public comments and that responses will not require development of new scenarios or major re-modeling.
- **Board of Supervisors meeting support:** Assumes ICF will provide technical inputs for slides (tables, figures, interpretation, and talking points) but will not prepare a presentation deck. Assumes Hazelle Tomlin and Jordan Mayor attend in-person.



7. Timeline

ICF is available to commence work immediately upon contract signing, and as early as June 2026. Exhibit 9 shows the deliverables schedule ICF is proposing, to be refined in the project scope based on input from County staff on internal deadlines being faced. The schedule may need to be adjusted as the work requires, and any adjustments would be discussed with and agreed upon with County staff in the monthly coordination meetings, and confirmed following meetings in writing. Exhibit 8 shows the range of staff availability in percent of weekly hours available to this project, pending project requirements.

Exhibit 9: Staff availability* shown for anticipated low to high project requirements.

Core staff	Availability*
Project Manager & AFOLU Emissions and Removals – Hazelle Tomlin	25-60%
Deputy Project Manager & Remote Sensing and GIS – Ann McElvein	25-60%
Senior Project Advisor and CEQA – Rich Walter (ICF)	0-5%
Senior Forest Management Consultant – John Nickerson (Dogwood Springs Forestry)	15-50%
Senior Environmental Consultant – Dr. Jordan Mayor (ICF)	0-15%
Senior Forest Ecology and Management Consultant – Jennifer McAdoo (ICF)	0-15%
Senior Climate Scientist – Dr. Mason Fried (ICF)	5-15%
Remote Sensing and GIS Consultant – Sophia Stonebrook (ICF)	15-25%
Forest Ecology and Management Consultant – Stephanie Ridley (ICF)	0-15%
Remote Sensing GIS and Support – Isabella (Bella) Scornaienchi	15-50%
Hazard Modeling – Noah Carpenter	15-25%
Additional junior staff	15-50%



Exhibit 10: Deliverables timeline, subject to contract start date and any adjustments in schedule as agreed with County staff.

Project Timeline	2026		2027				2028				2029
	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan - Mar	Apr - Jun	Jul - Sep	Oct - Dec	Jan
Task 1 – Project planning framework	•	•	•	•	•	•	•	•	•	•	•
1.1.1. Monthly coordination meeting agendas	•	•	•	•	•	•	•	•	•	•	•
1.1.2. Kick-off meeting agenda and summary	•										
1.1.3. Final project scope (MS Word, 10 pages)	•										
1.2.1. Stakeholder engagement plan (MS Word, 3 pages)	•										
1.2.2. Stakeholder engagement summary		•									
1.3.1. Library of resources (MS Excel, matrix)		•									
1.3.2. Microsoft Word review summary (MS Word, up to 30 pages)		•									
Task 2 – Humboldt countywide natural and working lands carbon stock inventory and summary report				•	•	•					
2.1.1. Draft inventory method memo		•									
2.2.1. Inventory estimates including dashboard suitable tables, graphs and maps, and ten-year change				•							
2.2.2. Uncertainty estimates				•							
2.3.1. Carbon stock stability data tables, charts and graphics					•						
2.4.1. Draft inventory report (up to 50 pages excluding appendices)					•						
2.4.2. Inventory archive					•						
2.5.1. Instructions for updating the inventory (up to 5 pages)						•					
Task 3 – Carbon sequestration feasibility study and final Humboldt natural and working lands carbon stock and management study report								•	•	•	•
3.1.1. Baseline projections through 2045								•			
3.2.1. Feasibility study carbon stock projections and best management practice estimates including dashboard suitable tables, graphs and maps								•			
3.3.1. Draft feasibility study									•		
3.4.1. Incorporation of feasibility study and inventory report for public review										•	
3.4.2. Addressing public comments										•	



	2026		2027			2028			2029
3.4.3. Final Humboldt natural and working lands carbon stock and management study report									.
3.5.1. Attendance at and support for board of supervisors meeting									.



8. Insurance Requirements

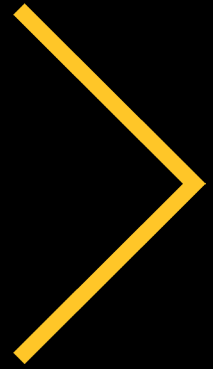
If we win the award, ICF will provide an updated COI with the insurance requirements for the contract

ACORD®		CERTIFICATE OF LIABILITY INSURANCE				DATE(MM/DD/YYYY) 05/25/2025	
<p>THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.</p> <p>IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).</p>							
PRODUCER Aon Risk Services Northeast, Inc. New York NY Office One Liberty Plaza 165 Broadway, Suite 3201 New York NY 10006 USA				CONTACT NAME PHONE (A/C. No. Ext): (866) 283-7122 FAX (A/C. No.): (800) 363-0105 E-MAIL ADDRESS:			
INSURED ICF Incorporated LLC 1902 Reston Metro Plaza Reston VA 20190 USA				INSURER(S) AFFORDING COVERAGE		NAIC #	
				INSURER A: Great Northern Insurance Co. 20303 INSURER B: ACE American Insurance Company 22667 INSURER C: Federal Insurance Company 20281 INSURER D: Continental Casualty Company 20443 INSURER E: INSURER F:			
COVERAGES CERTIFICATE NUMBER: 570113626969 REVISION NUMBER:							
THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS. Limits shown are as requested							
INSTR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Prod/Comp Ops Inc. GEN'L AGGREGATE LIMIT APPLIES PER: POLICY <input checked="" type="checkbox"/> PRO-JECT <input checked="" type="checkbox"/> LOC OTHER:		35812409 Package - Domestic	07/01/2025	07/01/2026	EACH OCCURRENCE TOWNSHIP TO RENTED PREMISES (Ea occurrence)	\$1,000,000 \$1,000,000
						MED EXP (Any one person)	\$10,000
						PERSONAL & ADV INJURY	\$1,000,000
						GENERAL AGGREGATE	\$2,000,000
						PRODUCTS - COM/OP AGG	\$2,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY		73522955 Automobile - All states	07/01/2025	07/01/2026	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000
						BODILY INJURY (Per person)	
						BODILY INJURY (Per accident)	
						PROPERTY DAMAGE (Per accident)	
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION		93630018 Umbrella Liability SIR applies per policy terms & conditions	07/01/2025	07/01/2026	EACH OCCURRENCE	\$5,000,000
						AGGREGATE	\$5,000,000
B	<input checked="" type="checkbox"/> WORKERS COMPENSATION AND EMPLOYER'S LIABILITY ANY PROPRIETOR / PARTNER / EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N/A	2671754337 workers Compensation	07/01/2025	07/01/2026	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER	
						E.L. EACH ACCIDENT	\$1,000,000
						E.L. DISEASE-EA EMPLOYEE	\$1,000,000
						E.L. DISEASE-POLICY LIMIT	\$1,000,000
D	E&O - Miscellaneous Professional-Primary		652011911 E&O Includes cyber	07/01/2025	07/01/2026	Each Claim overall policy aggr	\$5,000,000 \$5,000,000
DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required) Evidence of Insurance							
CERTIFICATE HOLDER ICF Incorporated LLC 1902 Reston Metro Plaza Reston, VA 20190 USA				CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE <i>Aon Risk Services Northeast Inc.</i>			

Holder Identifier :

Certificate No : 570113626969





Appendix A: Resumes



Hazelle Tomlin, BS, MS Managing Consultant

RELEVANT EXPERIENCE

Hazelle Tomlin is a leader in the quantification and mitigation of agriculture and land-based greenhouse gas (GHG) emissions, with deep expertise in project management, stakeholder engagement, and technical analysis. Hazelle currently leads advanced analysis of biogeochemical modeling outputs to assess the impact of climate smart agriculture practices for the 45Z SAF tax credit and led major contributions to ICF's compilation of the U.S. 2023, 2024, and 2025 GHG Inventories for the EPA. Acting in project and task management roles on high-value contracts, Hazelle manages multidisciplinary teams, oversees deliverables, and drives quality control across complex projects.

Education

- MSc, GHG Management and Accounting, Colorado State University, 2019
- BSc, Geology & Geography, University of Canterbury, 2017
- DipSpanLang, Spanish, Universidad de La Rioja, 2014

Certifications and Trainings

- Qualified UNFCCC reviewer of national GHG inventories
- Sustainability Leadership Association, Sustainability Leadership Course

Hazelle's experience spans collaboration with U.S. states, local governments, and federal agencies to advance greenhouse gas mitigation in agriculture and land use. For the Climate Pollution Reduction Grant (CPRG) program, Hazelle led the development of baseline AFOLU GHG inventories and emissions projections through 2050, as well as mitigation scenario modeling for multiple

authorities. Hazelle led analyses, technical advice, and written materials for state and local government clients' climate action plans. Known for clear communication, rigorous QC, and effective mentorship, Hazelle has a proven ability to convey complex information to government, scientific, and private sector audiences. Hazelle completed a MSC in Greenhouse Gas Management and Emission Accounting under Dr. Stephen Ogle and Dr. Richard Conant at CSU, Colorado.

PROJECT EXPERIENCE

Improvements to USDA Feedstock Carbon Intensity Calculator (FD-CIC), USDA, 2025–2028
Deputy Project Manager, Task Lead, Technical Contributor. Lead a multidisciplinary team to deliver advanced analyses of biogeochemical model outputs for USDA's Office of the Chief Economist. Manage project administration, coordinate weekly meetings, and develop trackers for climate smart agriculture workstreams. Direct activities of junior and intermediate staff; provide mentorship and support professional growth. Effectively convey complex technical information to USDA, ANL, and other stakeholders (government, scientific, private sector). Maintain diligent attention to detail, leading QC across deliverables.



International Transparency Accelerator, US EPA, Aug 2022–2025

Task Lead for AFOLU Inventory Support (Largest Task, ~\$640K Revenue Managed). Led the largest task under EPA’s Transparency Accelerator Initiative, managing AFOLU support across South Africa, Costa Rica, Chile, El Salvador, Viet Nam, Dominican Republic, Senegal, and Kenya in 2024–2025. Directed a team of five staff; delegated leadership for additional countries; managed region-wide analyses for Latin America and the Caribbean. Delivered training programs, developed outreach/publication materials, and presented technical findings to international audiences. Led QC/QA for inventory compilation, ensuring alignment with IPCC guidance and EPA standards. Provided mentorship and capacity building for junior staff and country counterparts. Supported development of GIS mapping, emissions projections, and technical guidance for national GHG inventories. Authored and reviewed technical chapters and guidance; contributed to international inventory publications.

Assess the current scale, scope, and impact of existing GHG efforts, The Nature Conservancy, 2025–2026

Deputy Project Manager. Lead project management activities including task coordination, budget tracking, and client engagement. Led Task 1 review of AZ policies and programs to assess the scale and scope of GHG mitigation activities, the political landscape for climate action and identified climate action implementation gaps. Developed stakeholder survey to validate findings from Task 1 and inform strategy for TNC AZ Climate Program.

Climate Pollution Reduction Grant PCAP and CCAP Agriculture Modelling, U.S. EPA, Philadelphia, Delaware, Virginia, Connecticut, North Carolina, Inland Empire, Richmond, Knoxville, Hampton Roads, MWCOG, Nashville, Fredrick County, and Prince George County, 2022–Present

Subject Matter Expert and Agriculture Inventory, BAU and Mitigation Modelling Lead. Development of baseline AFOLU GHG inventories, business as usual (BAU) emissions projections through 2050, and mitigation scenario modelling through 2050. Provides technical advice and science communication materials to clients.

Montgomery County Climate Assessment for Master Plans and Zoning Text Amendments, Montgomery County Planning Department, 2025

Project Manager. Led a comprehensive review of the GHG quantification tool and its documentation and user feedback, and developed actionable recommendations for tool updates. Facilitated biweekly stakeholder engagement to ensure proposed updates aligned with stakeholder needs, implemented agreed-upon improvements, and provided targeted training to staff on the revised tool to support effective adoption and use.

EPA GHG Equivalencies Calculator, U.S. EPA, 2022–2025

Task Manager. Led annual sector wide emission factor and methodological updates to the tool, and corresponding website updates, prepare and provide responses to user questions. Implemented



ongoing tool improvements as proposed and agreed on in collaboration with U.S. EPA. Managed junior staff contributions, task budget, and client coordination.

State and Local Climate and Energy Program Support, U.S. EPA, 2023–2025

Subject Matter Expert. Provided advice for technical methodological updates of the Agriculture module of the State Inventory Tool (SIT), focusing on enhancing the accuracy of state-level GHG estimates. Contributions involved transitioning key calculation methods from the 1996 and 2006 IPCC guidelines to more accurate IPCC 2019 Refinement methods, where relevant to the sources, ensuring that state inventories reflect the latest scientific approaches. Updates continue to support improved consistency and reliability in agricultural emissions reporting for states and local governments.

Optimizing GHG Mitigation in the Agriculture and Forestry Sectors, USDA, 2024–2025

Technical Contributor. Led development of whitepaper on Prescribed Grazing. Contributed to climate change and land use change modelling for emission projections. Technical contributions to assessment of climate smart agriculture practice quantification methods, and advice for modelling livestock system data for marginal abatement cost curves.

Technical Advisory on New GREET Development, Argonne National Lab, 2024–2025

Subject Matter Expert. Led livestock technical approach and provided leadership and technical advice on estimation of rice ebullition, agricultural residue burning and crop production emissions directly resulting from biofuel feedstock production. Led quality control (QC) efforts on all agriculture and land-based emissions estimates. Emission factors developed under this project were used in the development of 2024 R&D GREET and 45ZCF GREET.

AWARDS

NZ Fulbright Science and Innovation Award
NZAGRC Policy Extension Award

EMPLOYMENT HISTORY

ICF. Managing Consultant, Agriculture and Land Use. 2024–Present
ICF. Senior Climate Change and Sustainability Specialist. 2022–2024
New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC). Technical Inventory Advisor. 2021–2022
Global Research Alliance on Agricultural Greenhouse Gases (GRA). International Secretariat. 2019–2022
New Zealand Ministry for Primary Industries (NZ MPI). Policy Analyst, International Policy and Trade. 2019–2021
New Zealand Flight Centre. Travel Agent (Part-time during BSc 2012–2015). 2010–2015
Moller-Young. Sales and Administration. 2009–2009



Ann McElvein, BS, MS

Senior Climate Change & Sustainability Specialist, AFOLU

RELEVANT EXPERIENCE

Ann has over 6 years of experience in geospatial and statistical carbon modeling in agricultural and forested landscapes; tabular data analytics and visualization; and technical writing on agricultural climate stress, resilience, and mitigation. Ann joined ICF in 2024 as part of the Climate Planning portfolio of the Climate, Energy, and Transportation line of business. At ICF, Ann contributes to the Agriculture, Forestry, and Other Land Use (AFOLU) market segment and assists with projects pertaining to GHG/ecosystem carbon accounting, implementation of nature-based solutions (NBS), quantification of NBS co-benefits, and carbon offsets. She is based in San Francisco.

Education

- MSc, Environmental Science/GIS, University of Auckland, New Zealand, 2023
- BSc, Environmental Science/GIS, University of California, Berkeley, 2019

PROJECT EXPERIENCE

Natural and Working Lands Inventories

Natural Resources Strategy, Loudoun County, 2025–Present

Deputy Project Manager. Ann is leading the development of the Strategy, which establishes a plan for the natural resources in the county. Ann oversees stakeholder engagement, baseline assessment, report writing, and action planning.

Agriculture and Energy Support Services, SoCalREN, 2025–Present

Analyst. Supported the evaluation of GHG mitigation potential from energy efficiency measures in agricultural production settings, assessing factors including emissions reductions, implementation costs, available funding sources, potential pilot projects, and regulatory considerations.

Natural Working Lands Inventory, Bay Area Air Quality Management District, 2024–2025

Analyst/Task Lead. Ann compiled a baseline NWL GHG inventory for the entire California Bay Area using satellite raster data, then calculated NWL BAU, set reduction targets, and quantified potential mitigation measures. Link to report: [link](#)

Transparency Accelerator for Greenhouse Gas Inventories, EPA, 2024–2025

Analyst. Ann supported El Salvador in their national GHG inventory compilation, advising on GIS data usage and IPCC AFOLU accounting methodologies. Ann served as a technical advisor and knowledge-sharing resource, helping counterparts interpret IPCC guidance, troubleshoot data limitations, and apply GIS outputs to inventory decision-making.



National Resources Inventory, NRCS USDA, 2024–2025

Researcher. Ann compiled and quantified research on NRCS climate-smart agriculture and forestry mitigation activities, focusing on agroforestry, forestry, wetlands, and wildlife habitat. Work includes literature review, memo authorship, and developing quantitative methodologies.

Carbon Offsets

Carbon Offsets, California High Speed Rail Authority, 2024–Present

Revenue Generation Task Lead. Ann is identifying revenue generating project opportunities targeting over 100,000 MTCO₂ of removals; involving lead generation, stakeholder management, and GIS analysis of Authority landholdings. Dashboard link: [link](#)

CORSIA Offsets/Decarbonization, ALTA (Latin American and Caribbean Air Transport Association), 2025–2026

Offsets Task Lead. Ann overviewed the landscape of offsets in South/Central America and identified their current and future eligibility for CORSIA. She also developed a supply and pricing projections tool to inform the offsetting budget and approach. This work formed part of a broader project developing a decarbonization roadmap for the region. Link to report: [link](#)

Carbon Offsets, Caltrans, 2025–2025

Offsets Task Lead. Ann identified carbon offset opportunities on degraded redwood forest land, targeting 50,000 MTCO₂ of removals. This work involved the application of CARB Reforestation and IFM methodologies (using GIS and bespoke Excel tools) to estimate credit quantities over 25 years.

Forestry Offset Baseline Inventory Analysis, Southern California Edison, 2024–2024

Analyst. Ann assessed the forest landholdings and criteria for a baseline ecosystem carbon stock inventory, designed to satisfy the requirements of numerous forestry offset protocols from the Climate Action Reserve and American Carbon Registry.

Tool Building, Automation, Scripting

Disqualified Products Online Assessment, ENERGY STAR, 2024–2025

Developer. In support of the Program Integrity team, Ann built a series of Python scripts that check webpages advertising or selling disqualified products for mention of ENERGY STAR, scraping both individual domains and Google.

Direct Install Measures Automation, SoCalGas, 2025–2025

Developer. Wrote custom VBA scripts to automate the flow of data across existing Direct Install measure templates, reducing manual entry time.

Prior to ICF



School of Environment Master’s Program, University of Auckland, 2022–2023

Lead Researcher. Ann modeled the landscape-scale, geospatial drivers of soil carbon in a New Zealand forest using machine learning and statistical regression methods.

USA Agricultural Stress Report Series, EDF, 2021–2022

Project Manager. Ann partnered with academic researchers across the US and led multiple teams in the ideation and publication of three reports summarizing current, regional trends in agricultural stress across the USA; covering drought, heat stress in farmworkers, and pest and disease management.

Working Lands Portfolio Support, EDF, 2021–2022

Research Analyst. Ann supported the launch of various initiatives through quantitative data analysis, visualization, and mapping; producing deliverables like climate-dependent crop yield predictions, overviews of global agricultural methane from FAOSTAT, and a tool for remote-sensing identification of non-cropped agricultural lands.

Strategy & Analytics Rotational Program, Lucid Software, 2019–2021

Data Analyst. Ann built and maintained over 50 SQL data models and associated Tableau dashboards; serving marketing, financial planning & accounting, and business operations.

Polaris Project, Woodwell Climate Research Center, 2018–2019

Research Assistant. Ann modeled soil carbon pools and lability across a region of Alaskan permafrost using supervised and unsupervised classification algorithms, including random forest predictive models.

EMPLOYMENT HISTORY

ICF. Senior Climate Change and Sustainability Specialist. 2024–Present

Environmental Defense Fund. Agriculture Resilience Research Analyst. 2021–2022

Lucid Software. Data Analyst. 2019–2021

Woodwell Climate Research Center. Research Assistant. 2018–2018



Rich Walter, BA, MS

Senior Advisor

RELEVANT EXPERIENCE

Rich Walter has 33 years of experience in environmental planning, compliance strategy, permitting, and mitigation development and implementation. He has worked on numerous controversial and complex environmental planning and compliance projects. Rich has experience in greenhouse gas (GHG) and climate change policy and analysis, and he has managed multibillion-dollar transportation infrastructure NEPA and CEQA analyses across California. He has managed projects that comply with NEPA, CEQA, the federal and California ESAs, the NHPA, the Clean Air Act, the Clean Water Act, the California Coastal Act, the Coastal Zone Management Act, and other state and local mandates. Rich has also led a California municipal climate action planning practice since 2006, which includes advising municipal and private clients on the development of policies dealing with climate change, general plans, regional transportation plans, and the NEPA/CEQA analyses of climate change impacts.

Education

- MA, International Relations/ Energy, Environment, Science, and Technology, The Johns Hopkins University School for Advanced International Relations, 1993
- BA, History, Stanford University, 1985

Certifications and Trainings

- Association of Environmental Professionals (AEP) and AEP Climate Change Committee
- National Association of Environmental Professionals

PROJECT EXPERIENCE

Climate Action Planning Experience

Climate Action Plans/GHG Reduction Analysis, 2008-2024

Inland Empire PCAP/CCAP, Los Angeles County Community CAP; LA County Municipal CAP, Ontario; San Bernardino County, San Bernardino Region (21 cities for original plan and 25 cities for Plan Update), Coronado, Goleta, Livermore, Stockton, Marin County, Napa County, Sonoma County, Tracy, Monterey County, Oroville, Calistoga.

Climate Adaptation Plans, 2008-2024

Benicia Sea Level Rise Adaptation Strategy, Los Angeles Metro Climate Action and Adaptation Plan; San Francisco Waterfront Resiliency Program, Caltrain Electrification Sea Level Rise Adaptation Plan, SMART Rail Sea Level Rise Adaptation Plan

Greenhouse Gas Inventory Experience

GHG inventories, 2008-2024

Project Director. Project Director for the preparation of GHG inventories for 88 cities in Los Angeles County (including land cover sequestration for LA County), 11 jurisdictions in Stanislaus



County, 25 jurisdictions in San Bernardino County, 9 jurisdictions in Coachella Valley (including land cover sequestration), 9 jurisdictions in Sonoma County, Ontario, Coronado, Goleta, Livermore, Stockton, Marin County, Napa County, Tracy, Monterey County (including land cover sequestration), Oroville, and Calistoga as well as verification of the San Francisco Community Inventory

GHG inventories, 2008–2024

Senior Advisor. for the preparation of GHG inventories for 2010, 2015, and 2020 for the City of Chicago and the 7-county Chicago metropolitan region.

Project Greenhouse Gas Analyses for CEQA and NEPA

Project Greenhouse Gas Analyses for CEQA and NEPA, Various Clients, 2008–2026

Project Director. Project Director for project analyses of greenhouse gas emissions including:

Transportation: SR 239, California High-Speed Rail Project (San Francisco to San Jose and San Jose to Merced), Caltrain Peninsula Corridor Electrification Project, Altamont Commuter Express ACEforward, Extension to Ceres, and Extension to Merced project, Valley Link, WETA Alameda Ferry Berthing Facility, Hamilton Army Airfield Aquatic Transfer Facility, Port of San Diego terminal projects; Port of San Francisco Waterfront Resiliency Program, Merced Intermodal Track Connection, Madera Station, East-West Connector

General Plans/Transportation Plans: Monterey County General Plan, Napa County General Plan, City of Livermore General Plan, SANDAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

Development: Related City Place Santa Clara, Pebble Beach Company Del Monte Forest Plan, El Charro Specific Plan, Rancho Canada Village, Pebble Beach Inclusionary Housing Project, Union City Mixed-Use Project, Bayhill Specific Plan, Mission Rock

Oil & Gas Infrastructure: Chevron San Ardo to Coalinga Pipeline

Habitat Restoration and Management: Suisun Marsh Habitat Management Preservations and Restoration Plan; Sears Point Restoration Project.

Other Climate Studies

CAPCOA GHG Handbook and CalEEMod 2022 Update, 2022

Project Director.

White Paper on Best Practices in Climate Action Plan Implementation, AEP, 2019

Contributing Author.



White Papers on Climate Action Planning for the Post-2020 World, AEP, 2015, 2016

Lead Author.

USEPA Region IX Study of Air Quality Cobenefits of Local GHG Reductions

Project Director.

CAPCOA Model Greenhouse Gas Policies for General Plans, CAPCOA, 2009

Project Director.

CAPCOA CEQA and Climate Change White Paper, CAPCOA, 2008

Contributing Author.

EMPLOYMENT HISTORY

ICF. Project Director. San Francisco, California. 2000 –Present



Jordan Mayor, BS, MA, PhD

Senior Plant & Wetland Ecologist, Project Manager

RELEVANT EXPERIENCE

Dr. Mayor brings a deep understanding of forest ecology and the regulatory environment garnered from over a decade of local consulting experience.

Jordan Mayor is a senior ecologist with over 20 years of experience as an environmental consultant and research scientist. His areas of technical expertise include CEQA/NEPA and regulatory compliance along the northern California coast, ecosystem ecology, conservation planning, mitigation monitoring, and the management practices of industrial timberlands. He has contributed to multiple habitat conservation planning documents for industrial timberlands in OR and Northern CA; and conducted primary ecological research in boreal, temperate, and tropical

ecosystems. Dr. Mayor would contribute to the Humboldt Natural and Working Lands Carbon Stock and Management Study through his experience with Humboldt County forest managers and his understanding of both the ecological and regulatory environment.

Education

- PhD, Ecosystem Ecology, University of Florida, 2010
- MA, Botany, Humboldt State University, 2005
- BS, Biology, Virginia Polytechnic Institute and State University, 1999

PROJECT EXPERIENCE

Land Use Planning

California Environmental Quality Act (CEQA) Professional Services Agreement, Humboldt County Planning & Building Division, Eureka, 04/2020 – 03/2023

Project Manager (PM).. Dr. Mayor served as PM on the peer-review of technical and environmental documents prepared by other consultants; preparation of technical studies and CEQA environmental documents for various rural and urban projects; and the preparation of staff reports for presentation in public hearings as an extension of County staff. More specifically, a majority of this work has included the analysis of 100+ cannabis cultivation projects for CEQA and local ordinance compliance.

Humboldt Bay Heavy Lift Marine Terminal Port Redevelopment Project, Humboldt Bay Harbor & Conservation District, California, 04/2022 – present

Deputy Project Manager/Lead Biologist.. Attend all internal and external meetings with the client and regulatory agency staff. Coordinate internal and external teams to finalize the project description, conduct technical analyses, and lead many aspects of document preparation



necessary for CEQA/NEPA compliance and regulatory permitting. Attend public meetings and represent this project to the public and stakeholders.

Conservation Planning / Forestry Sector

Habitat Conservation Plan (HCP) Compliance Monitoring and HCP Amendment Projects, Humboldt Redwood Company (HRC), District 1, 01/2020 – present

Deputy PM. Dr. Mayor has served as deputy PM overseeing the statistical design of several new protocols as a third-party compliance monitor hired by HRC upon recommendation by USFWS, NMFS, and CDFW (Wildlife Agencies). Third-party monitoring is required by HRC's HCP which was originally written for PALCO timber company. These protocols were developed in close collaboration with the Wildlife Agencies and HRC staff for deployment across ~200,000 acres of industrial timber lands in Humboldt County. Close collaboration with the client and the agencies, combined with ICF's technologically innovative approach, has led to streamlined digital data collection efforts that accelerate the generation of annual monitoring reports and have achieved greater Wildlife Agency trust of HRC's forest management practices.

Dr. Mayor has also prepared a Section 6 conservation planning grant to amend Humboldt Redwood Companies' 1999 HCP. He is managing all aspects of HRC's HCP amendment process, including internal and external coordination with ICF technical teams, planning and meeting facilitation, participation in all client and agency meetings, and completion of the amended HCP. This work is expected to result in an Amended HCP in 2027 that will facilitate forest management operations and result in a greater conservation benefit to Northern Spotted Owl.

Elliot State Research Forest HCP, Oregon Department of State Lands, 01/2022 – present

Deputy PM. Dr. Mayor contributed to the project management, meetings, and textual revision of this innovative HCP developed for a new 83,000 acre state research forest located near Coos Bay on the coast of Oregon. Extensive changes were needed nearing finalization of the HCP and HCP permits were obtained in the summer of 2025. Since then, ICF has continued to assist new staff of the ESRF as they begin setting up their HCP implementation systems. This effort includes close collaboration with the ESRF staff to develop forest management priorities, to interpret the HCP requirements, to set up collaborative GIS databases, and to develop other implementation tools that could improve management of this exciting new research forest.

Marbled Murrelet HCP NEPA document, Green Diamond Resource Company, California, 01/2025 – present

Deputy Project Manager. Overseeing the production of an Environmental Impact Statement (EIS) for this single-species HCP located in Northern California coastal forests. Lead author of the biological resources section and acting coordinator of internal and external teams.



Western Oregon State Forest HCP, Oregon Department of Forestry, 01/2022 – present

Deputy PM. Dr. Mayor attends meetings, coordinates tasks, conducts technical analyses, and contributes to document preparation in support of finalizing this HCP that covers 640,000 acres of state forest lands in western OR. He regularly assists in responding to agency and client comments throughout the development of the Final HCP and is the lead terrestrial ecologist and main contributing conservation planner to the document revision.

Oregon Private Forest Accord HCP, Oregon Department of Forestry, 05/2022 – 07/2024

Deputy PM. Dr. Mayor attended meetings, coordinated tasks among co-authors, and prepared HCP chapters based on the Private Forest Accord and the revised Oregon Forest Practices Act rules. This is a fast-moving HCP being developed for lands that span the entire state of Oregon.

Kaua‘i Island Utility Cooperative HCP, KIUC, 05/2022 – 08/2023

PM. Dr. Mayor attended meetings, coordinated tasks among co-authors, and prepared revisions to HCP chapters based on ongoing agency and public reviews for a client in the public energy sector.

PROFESSIONAL AFFILIATIONS

Member, California Native Plant Society, 2015 – present.

Member, Ecological Society of America, 2005 – present.

EMPLOYMENT HISTORY

ICF. Senior Biologist, Plant and Wetland Ecologist. 05/2017–Present

GHD, Inc.. Biologist/Botanist. 2015–2017

Humboldt State University, Department of Biological Sciences. Faculty Lecturer in Botany and Plant Ecology. 2015–2016

Swedish University of Agricultural Sciences. Postdoctoral Research Ecologist. 2013–2015

STRI Laboratory. National Science Foundation Postdoctoral Research Fellow in Soil Biogeochemistry and Ecosystem Ecology. 2010–2012

University of Florida. Research or Teaching Assistant. 2005–2010

Humboldt State University. Teaching Assistant. 2003–2005

Southern Oregon Ecological. Botanist/Mycologist. 2001–2004

North State Resources. Mycologist. 2001–2001

Six Rivers National Forest. Biologist. 2000–2000



Jennifer McAdoo, BA, MS

Forestry Advisor

RELEVANT EXPERIENCE

Jennifer is experienced in forest management, ecosystem restoration, and greenhouse gas flux monitoring. Her past projects cover rulemaking, basin-wide planning, project formulation and alternatives analysis, implementation, and effects monitoring. She is currently supporting the Oregon Department of Forestry, State Forest Division, to integrate climate-smart forestry strategies into their Forest Management Plan and 10-year implementation plans. Previously, she worked for the USFS Pacific Southwest Research Station, based in Humboldt County, where she supported long-term research on the Caspar Creek Experimental Watershed. She enjoys synthesizing information to improve plans and help organizations work together to achieve their goals.

Education

- MS, Earth Resources and Environmental Engineering, Columbia University, 2012
- BA, Philosophy (summa cum laude), Mathematics minor, Mount Holyoke College, 2006
- Coursework in Economics, Oxford University and London School of Economics, 2003 and 2005

Certifications and Trainings

- Registered Engineer in Training, Oregon No. 93550EI, Issued 03/2018
- Planning Core Curriculum, US Army Corps of Engineers, 2017
- Environmental Law and Regulations, US Army Corps of Engineers, 2017
- National Environmental Policy Act, US Forest Service, 2016
- River Restoration, Portland State University, 2016
- Wetland Delineation, Portland State University, 2015

PROJECT EXPERIENCE

Forest Management Plan and Implementation Plan, Oregon Department of Forestry, Oregon, 11/2021 – Present

Project Manager. Jennifer manages a team of experts to develop and implement a forest management plan that balances biological, social, and economic outcomes under changing regulatory and climate conditions. The plan introduces climate-smart forestry and carbon mitigation strategies into Oregon state forest management rule.

Western Oregon State Forests Habitat Conservation Plan EIS, National Oceanic and Atmospheric Administration, Oregon, 05/2021 – Present

Water Resources Specialist. Jennifer analyzes the hydrologic effects of proposed alternatives that would allow long-term timber harvest, road system management, restoration, and

recreation planning under programmatic incidental take permit.

Paradise Cut Multi-Benefit Habitat Restoration Project Formulation, San Joaquin Area Flood Control Authority, California, 07/2023—Present

Ecological Restoration Specialist. Jennifer identifies, formulates, and evaluates restoration strategies in an agricultural corridor in alignment with conservation plans and flood control goals.



Habitat Restoration Modeling for Alternatives Analysis SEPA EIS, Department of Ecology, Washington, 02/2025—Present

Ecological Modeling Specialist. Jennifer integrates data from multiple models and resource management programs to analyze effects on aquatic habitat of alternative strategies under a range of climate change scenarios.

Sites Reservoir CEQA EIR/EIS, Sites Reservoir Authority, California, 01/2021 – 10/2023

Water Resources Specialist. Jennifer provided methods based on engineering literature and analyzed surface hydrologic and geomorphic data accordingly. She provided effects conclusions and recommended managements strategies to mitigate effects.

Elliot State Research Forest Habitat Conservation Plan EIS, US Fish and Wildlife Service, Oregon, 04/2022 – Present

Water Resources Specialist. On a compressed timeline, Jennifer provided surface and groundwater effects analysis of a plan that allows long-term research studies on forestry practices.

Transportation and Transit Projects CEQA Checklists, Ventura County, California, 02/2022–12/2023

Water Resources Specialist. Jennifer provided water resources effects analysis for multiple transportation and transit related projects.

Solar Energy CEQA EIR Technical Report, Avangrid Renewables, California, 01/2021—12/2021

Water Resources Specialist. Jennifer analyzed the hydrologic effects of installing solar photovoltaic panels and compliance with the federal and state regulations and local general plans.

Santa Ana River Basin-wide Sediment Transport Study, USACE, California, 01/2017—06/2018

Environmental Coordinator. Prior to joining ICF, Jennifer led a holistic sediment transport study to identify and evaluate ecological restoration opportunities. She identified elements of the methodology, worked closely with experts on data collection and modeling, and coordinated with federal regulators, the Conservation District, the Municipal Water District, and subject matter expert stakeholders to provide alignment on methodology.

Forest Management Projects, US Forest Service and Bureau of Land Management, California, Montana, Idaho, 07/2013–12/2016

Hydrologist, Soils Scientist, and Technician. Prior to joining ICF, Jennifer served multiple roles with USFS And BLM. In California, she operated and maintained a long-term monitoring station network on the Caspar Creek Experimental Watershed that provides fundamental data for studies comparing the consequences of timber harvest and road treatments on surface water, sediment, and groundwater. In Montana and Idaho, she supported watershed planning efforts by identifying restoration and mitigation strategies, specific floodplain restoration project opportunities, and best management practices for forest and rangeland projects. She analyzed proposed project



alternatives for effects on water resources and compliance with federal, state, and local law. Projects included fuels management, timber harvest, and fire salvage. She worked closely with the Nez Perce Tribe on restoration project development, implementation, and performance monitoring. She provided burn area emergency rehabilitation recommendations and effectiveness monitoring. Jennifer lead the field crew providing soil condition evaluation and riparian proper functioning condition surveys to inform timber and grazing project scoping.

Coastal Greenhouse Gas Flux and Carbon Lifecycle Research, Columbia University, New York, 06/2009–09/2012

Research Assistant. Prior to joining ICF, Jennifer collected greenhouse gas data and calculated fluxes at research stations and aboard scientific cruises. Stations were located in bays, estuaries, and coastal wetlands in Massachusetts and New York. Cruises included the eastern seaboard and the Gulf of Mexico. She also provided lifecycle analysis for industrial production and supply chain of a large manufacturer.



Mason Fried, BA, MS, PhD

Climate Scientist and Resilience Expert

RELEVANT EXPERIENCE

Dr. Mason Fried is a climate scientist who uses advanced analytics and state-of-the-art datasets to assess climate indicators and develop resilience strategies for clients in the private and public sectors. His team developed ICF's ClimateSight tool, which leverages cloud-computing and Machine Learning to generate customized climate indicator projections, risk information, and dynamic data visualizations for anywhere in the globe and any time horizon through end-of-century. He has deep familiarity with climate risk tools and their application to a range of use cases related to critical infrastructure, natural systems, and energy systems. He has provided climate science support for a range of clients and institutions, giving him a unique perspective on

decision-relevant climate data outputs. He has published first-author research in journals such as *Geophysical Research Letters*, *Journal of Geophysical Research: Earth Surface*, and *Annals of Glaciology* and has contributed to a range of reports and papers in consultancy and science.

Education

- PhD, Jackson School of Geosciences, University of Texas at Austin, 2018
- MS, Geology, Portland State University, 2013
- BA, Geosciences, Hamilton College, 2010

PROJECT EXPERIENCE

Los Angeles County Climate Vulnerability Assessment, Los Angeles County, Los Angeles County, CA, 01/2020–01/2021

Climate Scientist. Dr. Fried took part in a broad, interdisciplinary study to evaluate vulnerability to climate hazards across communities, across transportation and utility assets, and in Los Angeles County. Dr. Fried used downscaled climate model projections of temperature, precipitation, wildfire, and coastal flooding to understand exposure to future climate hazards. These insights will inform a suite of customized adaptation plans for infrastructure and human systems in the county.

Strategic Climate Risk Assessment, British Columbia Ministry of Environment, Canada, 01/2018–01/2019

Climate Scientist. For the British Columbia Ministry of Environment, ICF developed a framework and evaluation of prioritized provincial climate risks, including increasing sea levels, heat waves, extreme weather events, and wildfire. Dr. Fried helped lead the analysis of future climate projections to evaluate risks and assessment of future cascading climate hazards, which feature compounding consequences for provincial assets. Ultimately, Dr. Fried integrated climate projections with spatial datasets to understand risks to transportation sectors to inform resilience strategy planning across the province.



Climate Change Vulnerability Study, Con Edison, New York, NY, 10/2018–12/2019

Climate Scientist. Dr. Fried supported the study by turning climate projections into actionable insights, tailoring projected climate change indicators to Con Edison’s system and operations thresholds, and clearly communicating relevant climate science, risks, and associated adaptation strategies to SMEs and stakeholders. Dr. Fried also led the development of innovative stress-test scenarios that consider rare, multifaceted, difficult-to-model, low-probability, high-impact extreme events, such as winter and coastal storms. The scenarios led to a new framework around adaptation to extreme events for utilities. The evaluation of climate vulnerabilities produced a suite of adaptation planning options to make utility infrastructure and operations more resilient to climate risks.

Climate Change Implementation Plan, Con Edison, New York, NY, 03/2020–06/2021

Climate Science Lead. Building on the Climate Change Vulnerability Study, ICF led the development of a climate change implementation plan for Con Edison in New York. This entailed (1) reviewing the current climate science for the region and selecting a climate change pathway for use in planning and design based on Con Edison’s risk tolerance, (2) communicating with all groups across Con Edison to explain the value and importance of considering climate change in their work, providing them with the resources they need, and helping them understand ways to update their specifications, processes, programs, planning, and projects to incorporate forward-looking climate change projections, and (3) establishing an internal governance structure to ensure this work is continuously supported and advanced in a consistent, sustainable, and reliable manner. Dr. Fried worked with engineers to communicate and analyze climate risks that need to be addressed in resilience actions and led the development of a climate resilience guideline for company practices.

Regional Climate Adaptation Toolkit for Transportation Infrastructure—Western Riverside Council of Governments (WRCOG) and San Bernardino County Transportation Authority (SBCTA), Western Riverside Council of Governments (WRCOG) and San Bernardino County Transportation Authority (SBCTA), 2018–2020

Project Manager and Climate Scientist. Like many regions in California, WRCOG and SBCTA territory faces present and future risks from a range of climate-related hazards, including extreme heat, wildfire, floods, drought, and reduced air quality. To address these risks, Dr. Fried worked to support climate adaptation planning in the region through the development of a regional climate adaptation toolkit. Dr. Fried led the analysis of downscaled climate model projections and spatial analyses to evaluate future exposure to a range of climate hazards in the region. In turn, insights from the vulnerability assessment helped shape adaptation strategies designed to mitigate these vulnerabilities and promote climate resilience across a number of priority sectors, including transportation networks and utilities. The project formed a highly tailored implementation plan and toolkit to make adaptation strategies actionable for local jurisdictions.



Indicators of Seasonality, Environmental Protection Agency (EPA), 2020–2021

Deputy Manager and Climate Scientist. Dr. Fried served as the deputy manager for an analysis of indicators of changes in seasonality and phenology for the United States to support EPA’s suite of climate change indicators. The analysis considered a broad cross section of seasonal observations related to physical, ecological, and human changes resulting from climate change. The indicators that were considered were rigorously documented to allow interested users of the indicators to understand the provenance of the underlying information. The results were presented in a polished report to support EPA’s public communications related to the impacts of climate change.

Climate Change Vulnerability and Risk Assessment, San Diego Gas and Electric (SDG&E), San Diego, CA, 01/2020–Present

Climate Scientist. Expanding on the California Energy Commission’s California Fourth Climate Change Assessment work, ICF and SDG&E are developing a unique assessment process to meet SDG&E’s climate resilience goals and the requirements of the ongoing California Public Utilities Commission’s order instituting rulemaking for climate change vulnerability studies. Dr. Fried leads the development of quasi-probabilistic climate projections and stress-test scenarios to understand spatially and temporally explicit exposure to climate hazards and asset-level risks across the SDG&E system.

EMPLOYMENT HISTORY

ICF. Director, Climate Science. 2018–Present



Stephanie Ridley, BS

Forester, Senior Environmental Planner, Project Manager

RELEVANT EXPERIENCE

Stephanie Ridley, who recently joined ICF, is a forester and environmental planner with more than a decade of experience in developing, analyzing, and implementing forest management projects for the U.S. Forest Service. Her work has spanned the intermountain west, including Idaho, Colorado, and Utah, where she has conducted analyses under the National Environmental Policy Act (NEPA) and worked with interdisciplinary teams (IDT) and a variety of stakeholder groups to effectively manage federal lands. Stephanie excels at collaborating with colleagues and external partners to strategically overcome challenges associated

with federal and state land management, such as cross-boundary coordination, multi-use mandates, wildfire response, and enhancing ecosystem resilience. She has consistently guided complex, multi-year NEPA analyses from initial planning through to decision and implementation, resulting in the treatment of more than 15,000 acres of forested land across the western U.S.

Education

- BS, Forest Management, Colorado State University, 2013

PROJECT EXPERIENCE

Environmental Analysis

Fawn Tussock Categorical Exclusion, Boise National Forest, Cascade, ID, 2020–2021

Project Manager and Forestry Specialist. Stephanie led efforts to address an insect outbreak and mitigate the impacts of widespread tree mortality on the Cascade Ranger District. She designed and managed the planning process for a categorical exclusion that evaluated impacts from thinning, prescribed burning, and reforestation treatments across 2,993 acres of affected forested land. The project improved future forest conditions by reintroducing resilient species to the landscape and reducing hazardous fuel loads in the wildland urban interface. Stephanie collaborated with resource specialists to develop project alternatives, define the purpose and need, and address requirements under the National Forest Management Act (NFMA) and Forest Plan policies. She generated responses to public comments and authored key project documentation, including the Forest Resource Analysis report, the Visual Impact Assessment, and the Economic Analysis.

End of the World Environmental Impact Statement, Nez Perce–Clearwater National Forests, Grangeville, ID, 2018–2019

Silviculture, Timber Management, and Carbon Storage Specialist. Stephanie carried out four distinct scientific analyses and prepared corresponding technical reports for a 49,500-acre forest restoration initiative within the Salmon River Ranger District. Her area of expertise included



proposing and analyzing the impacts of different silvicultural treatments and alternatives; assessing timber harvest methods and their environmental impacts; researching the economic feasibility of each alternative; and conducting a carbon cycling and storage analysis for the proposed project. The primary objective of this project was to increase forest resilience to insects, disease, and wildfire while enhancing watershed conditions. During project development, Stephanie collaborated extensively with the IDT, providing treatment recommendations grounded in best management practices and ensuring incorporation of the most current scientific data in all project design elements.

Good Neighbor Authority and Shared Stewardship

North Zone GNA Projects, Boise National Forest/Idaho Department of Lands, Emmett and Cascade, ID, 2019–2022

Lead Agency Liaison and Project Manager.. Stephanie served as the primary liaison between the U.S. Forest Service and the Idaho Department of Lands, managing the planning and implementation of multiple forest management projects under the Good Neighbor Authority. She facilitated communication and coordination between both agencies, ensuring alignment with project objectives and adherence to interagency agreements and regulatory standards. Stephanie was responsible for identifying NEPA-approved project areas on federal lands suitable for IDL staff to carry out field work, contract preparation, and sale administration. Throughout the life of each project, she provided essential data and continuous guidance to IDL staff, enabling the team to maintain project schedules and deliver desired outcomes.

Southern Idaho Shared Stewardship Landscape Assessment and Project Development, Boise National Forest, Emmett, ID, 2021–2022

Team Member.. Stephanie played an integral role in a collaborative effort to identify priority treatment areas across different ownerships in southern Idaho that were experiencing departures from desired forest conditions. Stephanie collaborated with a wide range of stakeholders and land managers, including State and Private Forestry Staff, the Idaho Department of Lands, environmental groups, private landowners, and representatives from the timber industry. Stephanie took the lead in organizing and conducting multi-day field visits to these project areas, ensuring that all relevant parties were informed and engaged. She also participated in presentations at stakeholder meetings, where she provided the public with detailed information about the proposed treatment areas. Through these interactions, Stephanie effectively communicated the project's goals, explaining how the planned activities would address critical concerns related to hazardous fuels, wildfire risk, and overall forest health management.

Program Management



North Zone Timber Sale Program, Boise National Forest, Emmett, Cascade, and Lowman ID, 2019–2022

Supervisory Forester. Stephanie oversaw all aspects of the Boise National Forest’s North Zone timber sale program. Her responsibilities encompassed the implementation of up to five timber sales each year, which included environmental analysis, project planning, sale layout, marking, cruising, sale appraisal, contract preparation, and oversight of active sale administration. Coordination was a key aspect of Stephanie’s role, as she worked closely with other resource specialists, including recreation, wildlife, and fire management, to ensure the successful integration of timber management activities. She proactively identified potential conflicts with other resources and recommended preventative or mitigative actions to address them. She supervised the timber staff including 8 permanent employees and 5 seasonal forestry technicians, providing daily guidance and mentorship, and promoting equal opportunity, safety, and situational awareness for all employees.

Contracts and Permitting

Garden Valley Hazard Tree Removal Permit, Boise National Forest, Garden Valley, ID, 2022

Project Coordinator. Stephanie led the environmental documentation and permitting process for the removal of dead and dying ponderosa pine hazard trees located near a U.S. Forest Service work center. Her comprehensive management approach encompassed all stages of the project, including conducting categorical exclusion analysis, performing field assessments and mapping, preparing permit documentation, initiating outreach to permittees, advertising the project, awarding permits, and overseeing operational activities in the field. To safeguard cultural resources and historic facilities within the project area, Stephanie developed detailed operational specifications and a thorough statement of work, ensuring all protective measures were clearly defined and implemented throughout the project.

AWARDS

10 years Length of Service with the National Forest and Grasslands Award: 2022
Group Award for Excellent Performance on Accelerated NEPA Project Planning: 2021
Individual Performance Award for Forest Management Projects Accomplished: 2020
Group Award for Forest Management Targets Exceeded: 2020
Individual Performance Award for Increasing the Pace and Scale of Restoration: 2019

EMPLOYMENT HISTORY

ICF. Senior Environmental Planner. 2026–Present
USDA Forest Service–Boise National Forest. Supervisory Forester. 2019–2022
USDA Forest Service. Regional Timber Sale Economic Specialist. Ogden, UT. Detail April–July 2022.
2022–2022
USDA Forest Service–Nez Perce Clearwater National Forests. Presale Forester. 2012–2019



USDA Forest Service. Supervisory Forester. Montrose, CO. Detail March–June 2019. 2019–2019
USDA Forest Service. District Silviculturist. Potlatch, ID. Detail September 2016–January 2017. 2016–
2017



Sophia Stonebrook, BA, MS

Climate Change and Sustainability Technology Specialist

Sophia Stonebrook is a Climate Change and Sustainability Technology Specialist in the climate planning line of business at ICF. Her background in utilizing remote sensing to understand impacts of climate change established a strong foundation in using data and technology to answer questions related to climate change.

RELEVANT EXPERIENCE

Education

- MS, Remote Sensing and Geospatial Sciences, Boston University, 2022
- BA, Earth and Environmental Science, Boston University, 2022

Energy Division Support, General Services Administration, 2024–Present

Data Specialist. Ms. Stonebrook supports the General Services Administration Energy Division by automating data cleaning and compilation processes. She has developed tools in Google Sheets that leverage the Google Script extension to combine multiple data sources in a streamline process.

Comprehensive Climate Action Plan, Connecticut Department of Energy and Environmental Protection, October 2025–Present

Data Specialist. Ms. Stonebrook supports the modeling for the transportation and industrial sector for the Connecticut Comprehensive Climate Action Plan. She has developed modeling for these industries based on target metrics provided by Connecticut DEEP.

Tracking System Support, The Environmental Protection Agency, October 2025–Present

Data Specialist. Ms. Stonebrook supports data analysis and dashboard development for the EPA Tracking System support. She leverages her coding skills to create dashboards that

Comprehensive Climate Action Plan, Virginia Department of Environmental Quality, July 2025–November 2025

Data Specialist. Ms. Stonebrook supported the modeling for the transportation sector and the compilation of results from multiple different sectors. For transportation modeling she modeled the impacts of increased electric vehicle purchased, VMT reduction, and increased renewable diesel consumption. She also supported the compilation of all sector results, ensuring that results were clearly presented for end users.

LCPS Scenario Tool, Loudoun County Public School, June 2025–November 2025

Data Specialist. Ms. Stonebrook supported the development of a scenario modeling tool for the Loudoun County Public Schools. She leveraged her Excel skills to create a dynamic tool that allows



the end user to compare outputs from multiple different scenarios. She contributed to the fleet turnover model and fleet emission calculations.

BIL IRA Project Categorization, The PEW Charitable Trust, February 2025–November 2025

Dashboard Developer. Ms. Stonebrook supported the development of a dashboard to display categorized projects on a map with multiple filters. She created a dashboard that is user friendly and easily summarizes project information on a high level.

Automation Support, ICF UPS Division, March 2025–August 2025

Data Specialist. Ms. Stonebrook supports the process automation and improvement for 15 projects across the UPS division. She works with a team of three others to put together a project plan based on the best tool, implement the process improvement, and walk the team through how to use the new tools. Tools used include Power Automate, Excel VBA, and Office Script.

International Transparency Accelerator, US EPA, Aug 2022–2025

Data Specialist. Ms. Stonebrook supported South Africa’s LULUCF international accounting methods through EPA’s Transparency Accelerator. She collaborated with SIG and provided guidance to South Africa’s team to develop high quality training datasets for their LCLU map development. She supported the development of GIS mapping and ensured alignment with IPCC guidance and EPA standards.

Data Management for U.S. Greenhouse Gas Inventory, Environmental Protection Agency, 2024–2025

Data Specialist. Ms. Stonebrook supports the Uncertainty and Data Compilation team for the U.S. Greenhouse Gas Inventory. She supported the modernization of the CRT reporting process, that utilizes Python to streamline the compilation process.

L RTP Scenario Planning, Baltimore Metropolitan Council, February 2025–July 2025

Dashboard Developer. Ms. Stonebrook supported the development of a dashboard in Tableau to display results from 1,500 scenarios. She created a dashboard that was intuitive for the end user and displayed results in an informative way.

Management and Analysis of Energy and Water Utilization, National Park Service, 2024–2025

Data Specialist. Ms. Stonebrook supports the data compilation and processing for building consumption data within the National Park Service’s property. She refined the automation process to fill gaps and compile data that gets uploaded using an API.

Climate Friendly Parks Program Support, National Park Service, 2024–2025

Data Specialist. Ms. Stonebrook supports the data compilation and modernization of processes for NPS Climate Friendly Parks Program. She is supporting the modernization of the CLIP tool by building out an application in PowerApps.



EMPLOYMENT HISTORY

ICF. Climate Change and Sustainability Technology Specialist. 07/2024–Present
Boston University Center for Remote Sensing. Research Fellow. 07/2022–07/2024
NASA MEaSURES GLanCE Project. Research Assistant. 09/2020–06/2022
NASA DEVELOP Program. Remote Sensing and GIS Analyst. 06/2021–08/2021



Isabella Scornaienchi, BS

Climate Change Analyst

RELEVANT EXPERIENCE

Isabella Scornaienchi is a climate change Analyst in ICF's Climate, Energy, and Transportation Division. Isabella has a background in climate and geospatial analysis through her experience at NASA, USDA, and Texas A&M College of Geosciences. At ICF, Ms. Scornaienchi supports greenhouse gas accounting, state, and local climate action planning, climate resiliency, decarbonization modeling, and geospatial & data analysis efforts for a variety of projects.

Education

- BS, Environmental Studies,
Texas A&M University, 2022

PROJECT EXPERIENCE

Climate Planning

Loudoun County Public Schools Climate Planning Support, Loudoun County, Loudoun County, VA, 03/2025–Present

Analyst. Ms. Scornaienchi led the inventory and Business-As-Usual (BAU) compilation for Loudoun County Public Schools (LCPS) facilities, fleet, and natural and working lands sectors. She processed LCPS raw consumption data to calculate emissions and utilized geospatial analysis to construct a natural and working lands inventory for LCPS urban tree canopy.

Frederick County Climate and Energy Action Plan, Frederick County, Frederick County, MD, 10/2024–Present

Analyst. Ms. Scornaienchi utilized GHG accounting methods to develop both a Business-As-Usual (BAU) and a fully customizable mitigation model for the natural and working lands sector, incorporating geospatial analysis for land cover change over time and trendlines for carbon pools within each land cover category. Additionally, Ms. Scornaienchi created a heat vulnerability index and assessment using public data to identify census block groups vulnerable to heat. This involved processing Landsat surface temperature data with Google Earth Engine and integrating demographic data from the American Community Survey (ACS) to produce multiple maps highlighting areas of concern.

EPA CPRG CCAPs, Multiple Localities, 03/2024–Present

Analyst. Ms. Scornaienchi created multiple natural and working lands inventories and Business-As-Usual (BAU) models for various localities by utilizing geospatial analysis to examine land cover change, carbon stocks, and present land cover. Additionally, she developed GHG reduction modeling tools for natural and working lands, using historical carbon stock data and urban tree canopy data to estimate potential increased sequestration through improved land management



practices and tree planting initiatives. Furthermore, she led the co-pollutant reduction work for the CCAPs by designing a calculation spreadsheet that estimates reductions in co-pollutants (NO_x, SO₂, VOC, CO, PM, etc.) based on energy use reductions and applies appropriate emission factors for each pollutant.

Priority Climate Action Plan, Delaware Department of Natural Resources and Environmental Control (DNREC), Crystal City, VA, 10/2023–12/2024

Researcher, Writer. ICF supports the Delaware Department of Natural Resources and Environmental Control in developing and writing its Priority Climate Action Plan as part of the Climate Pollutant Reduction Grant offered by the Environmental Protection Agency (EPA). Ms. Scornaienchi utilized geospatial technology to analyze LIDAC communities in the state, and how greenhouse gas reducing measures would affect these communities.

U.S. GHG Emissions and Sinks Inventory, U.S. EPA, Washington, D.C., 07/2023–Present

Analyst. Ms. Scornaienchi updates emissions estimates and documentation for the Fossil Fuel Combustion sector of the Inventory. Her responsibilities include data gathering and analysis, updating report text and results, quality assurance and quality control, and improving methodology for future Inventory cycles.

Falls Church Climate Action Plan, Falls Church Government, Falls Church, VA, 02/2023 – 08/2023

Researcher. Ms. Scornaienchi supports BAU and mitigation planning for the Falls Church government operations and broader community. She works on projecting the impacts of several greenhouse gas mitigation strategies.

Climate Resiliency

Superfund Climate Vulnerability Assessment, EPA, 05/2023 – 03/2025

Researcher. Ms. Scornaienchi supports EPA superfund site climate assessments through utilizing GIS to specify climate threats to the sites. She works on creating maps and graphs to show different effects of climate change on the sites.

Private Sector Investment Analysis, [Confidential], 07/2023, 08/2023, and 11/2023

Research and writing. Reviewed downscaled climate results for a study area and combined this information with client-provided information and research on client concerns to establish longterm viability of this investment. Focused on providing geospatial data to the team for sea level rise, flooding, and wildfire data.

Internship Project Experience



Impacts of Hurricane Maria on Temperature in San Juan, NASA Goddard Space Flight Center, Greenbelt, MD, 09/2022 – 12/2022

Researcher. Ms. Scornaienchi utilized NASA remote sensing assets to better understand both the environmental and socioeconomic impacts of the loss of tree cover due to Hurricane Maria with a focus on large urban centers in Puerto Rico

Connecting the local urban fabric to global climate change, Client, Location, 06/2022 – 08/2022

Researcher. Ms. Scornaienchi Researched the changing urban fabric of the Washington, DC area using ArcGIS Pro, Google Earth Engine, and ENVI programs to process Landsat data and further analyze expanding impervious land cover in DC.

Undergraduate Project Experience

Analysis of the Implementation of Permeable Paving Surfaces on the Texas A&M Campus, Texas A&M University, College Station, TX, 01/2022 – 05/2022

Researcher. Ms. Scornaienchi Analyzed the benefits of implementing permeable surfaces on Texas A&M's Campus to alleviate the stress of storm water drainage.

Outlining Opportunities to Transition Texas A&M into Carbon Neutrality, Texas A&M University, College Station, TX, 09/2021 – 05/2022

Researcher. Ms. Scornaienchi utilized GIS software and data to create a visual representation of locations rooftop solar covered parking would be appropriate on campus as well as manipulating raster data to better understand the land cover characteristics of Texas A&M's campus.

National Park campground model code, Texas A&M University, College Station, TX, 09/2021 – 12/2021

Researcher. created an Arcpy code that generated a toolbox with different tools that have different parameters about national park campground data such as road access, slope, proximity to trailhead, etc. The toolbox allows national parks to find new campground sites based on their personal parameters.

EMPLOYMENT HISTORY

ICF. Climate Change Researcher. 01/2023–Present

NASA Goddard Space Flight Center. Fall Intern. 09/2022–12/2022

NASA Goddard Space Flight Center. Climate Change Research Initiative Intern. 06/2022–08/2022

Texas A&M University College of Geosciences. Undergraduate Research Assistant. 09/2021–05/2022

USDA. Biological Research Technician. 05/2020–04/2022



Noah Carpenter

Senior Climate Resilience Specialist

RELEVANT EXPERIENCE

Noah Carpenter is knowledgeable in atmospheric science, with a focus on severe thunderstorms and tornadoes. He brings a deep knowledge of mathematics into his work with complex meteorological datasets and analytical tools. Mr. Carpenter's previous professional experience was as a graduate research assistant at the University of Oklahoma, where he used complex data analysis methods and statistical techniques to verify high-resolution, real-time severe thunderstorm forecasts against observed values. Mr. Carpenter holds a certification in Amazon Web Services (AWS) for cloud computing, with direct experience as an end user of AWS SageMaker. His experience includes utilizing SageMaker's built-in tools to streamline workflows, manage large datasets, and execute data-driven projects efficiently in the cloud environment. At ICF, Mr. Carpenter specializes in identifying and developing risk assessment methodologies, collecting and analyzing data, preparing technical reports, and collaborating with other researchers on new climate indicators.

Education

- MS, Meteorology, University of Oklahoma, 2022
- BA, Mathematics, University of Minnesota, 2019

Certifications and Trainings

- Certification in Amazon Web Services (AWS) for cloud computing

PROJECT EXPERIENCE

Habitat Conservation Plan, Guadalupe-Blanco River Authority, Texas, 06/2025-Present

Mr. Carpenter supported analysis for the Guadalupe River by providing future projected temperature, precipitation, streamflow, sea level rise, and water temperature data to evaluate potential changes in drought and rainfall conditions and their implications for aquatic habitats. Historical stream gauge data from the Guadalupe River region were analyzed to develop regression-based relationships between climate variables and streamflow, which were then applied to assess how these relationships may evolve under future climate scenarios. This work informed assessments of habitat impacts and water availability under a range of projected climate conditions.

Transportation Resilience Improvement Plan (TRIP) – Risk-Based Vulnerability Assessment, Lowcountry Council of Governments (LCOG), South Carolina, 2025-Present

Senior specialist. Mr. Carpenter supports the risk-based vulnerability assessment by analyzing the exposure of roads, bridges, and public transit assets to sea level rise, storm surge, and pluvial flooding scenarios using high-resolution geospatial datasets. He supports the monetized risk



scoring process, applying probabilistic flood hazard data and replacement cost estimates to calculate annual expected damages for each asset. This work provides LCOG with actionable insights into the economic consequences of climate risks, helping prioritize resilience investments across the transportation system.

Transportation Resilience Improvement Plan (TRIP), Ohio Department of Transportation (ODOT), Ohio, 2025–Present

Senior specialist. Mr. Carpenter contributes to the bridge overtopping analysis by integrating LiDAR-derived bridge deck elevations with interpolated flood surfaces to identify overtopping risks across the statewide network. He also supports automation of exposure and sensitivity assessments, improving consistency and efficiency across ODOT's analysis. These results feed into a comprehensive risk tool that integrates hazard, vulnerability, and consequence modeling to guide investment decisions.

Vulnerability and Risk Assessment, Massachusetts Department of Energy Resources (DOER), Massachusetts, 2024–2025

Senior specialist. ICF supported DOER in conducting a comprehensive risk assessment of threats to the state's energy sector, including both natural and man-made hazards. Mr. Carpenter led the intake and evaluation of prior Massachusetts climate reports to identify publication-ready datasets relevant to energy resilience and highlight gaps requiring new analysis. He evaluated tailored future climate variables, such as extreme heat and wildfire, to quantify exposure of bulk energy infrastructure to projected hazards through 2050. The study team conducted an asset-level quantitative risk assessment for eight natural hazards and a qualitative risk assessment. Mr. Carpenter also contributed to summarizing risk results by sector, with scenarios in the upper-right quadrant of the risk matrix representing the highest-priority resilience concerns for energy supply across Massachusetts.

Climate Vulnerability Assessment, Confidential Utility Company, Maine, 2024–2025

Senior specialist. Mr. Carpenter plays a crucial role in advancing climate science initiatives within the client's service area. His work focuses on evaluating and tailoring potential risks to the client's infrastructure and operations resulting from climate change, including the development of methodologies and collecting data for new hazards related to climate change. This effort aids in developing a thorough assessment of the client's grid vulnerabilities and helps identify resilience strategies to protect against future climate-related risks. Furthermore, his insights contribute to the refinement of the client's strategic planning and decision-making processes regarding climate adaptation and risk management.

Climate Change Risk Assessment, Confidential Utility Company, Colorado, 2023–2025

Senior specialist. Mr. Carpenter supports this study by forecasting future climate hazards to assess potential impacts within the client's service territory. His work aids in evaluating climate change risks to the client's assets and operations. This analysis contributed to a comprehensive



climate risk assessment of the client's electric distribution assets and helped identify key adaptation and resilience strategies to address high-priority vulnerabilities. Additionally, his expertise was critical in ensuring that the recommended measures align with the client's long-term operational priorities. Mr. Carpenter has also identified and created methodologies for new climate change indicators.

Climate Vulnerability Assessment, Confidential Utility Company, Canada, 2023–2024

Senior specialist. Mr. Carpenter contributes to this study by advancing future climate science within the client's service area. His work focuses on evaluating potential vulnerabilities that may impact the client's assets and operations. This effort is instrumental in developing a comprehensive climate change vulnerability assessment for the client's grid infrastructure and operations, as well as identifying suitable resilience strategies to mitigate associated risks and vulnerabilities. Mr. Carpenter also contributes by preparing and editing technical reports on climate change for the client.

Climate Change Resilience Work—Confidential Utility Company, Confidential Utility Company, California, 2023–Present

Analyst. Mr. Carpenter produces climate science projections to describe changes in potential hazards for various time horizons and climate change risk scenarios. Mr. Carpenter also communicates relevant climate and atmospheric science to SMEs. He provides literature reviews of extreme weather events that cannot be resolved in climate projections. He works in various coding languages to provide effective data analysis for client needs.

SELECT PUBLICATIONS AND PRESENTATIONS

Publications

Carpenter, N. T., Clark, A. J., Burke, P., & Skinner, P. (2023, January 8–12). Evaluation of the warn-on-forecast system and warn-on-forecast-hybrid 3EDnVar system on short-term forecasts for 2021 real-time cases [Oral presentation]. 2023 American Meteorological Society Annual Meeting, Denver, CO.

EMPLOYMENT HISTORY

ICF. Climate Resilience Senior Specialist. 03/2024–Present

ICF. Climate Resilience Specialist. 12/2022–03/2024

University of Oklahoma. Research Assistant. 08/2020–12/2022

University of Minnesota. Research Assistant. 08/2019–12/2019

NASA. Research Intern. 06/2019–08/2019



John F. Nickerson

California Registered Professional Forester #2549
Forestry Consultant
Dogwood Springs Forestry

Highlights of Qualifications

- Over 30 years of experience in forest inventories, silviculture, sustained yield analysis and landscape-scale resource analysis and climate-focused land management.
- Lead author and contributor to forest carbon accounting protocols and methodologies used in voluntary and compliance carbon markets.
- Collaborative experience with public agencies, tribes, NGOs, international organizations, and private landowners.
- Fluent in French, Spanish, and conversational Swahili.

Education

M.S., Forestry / Natural Resources
Humboldt State University, 1992

Teaching Credential – Life Science and Agriculture

Humboldt State University, 1992

B.S., Biology

Principia College, 1981

Relevant Experience

John has a deep background in forest management and sustainability planning, with expertise in forest inventory development, silviculture, forest economics, and alternative scenario analysis. His work evaluates variables including timber volume, carbon stocks, resiliency metrics, habitat conditions, visual quality, and long-term economic performance to support integrated land management decisions.

These skills were instrumental in the development of guidance for quantifying carbon benefits associated with discrete land management activities in the early days of forest carbon accounting in California. John was one of the main authors of California’s first forest carbon offset protocol and later developed the first forest carbon offset project implemented in the state, located in Fieldbrook in Humboldt County in 2005. He continues to support protocol revisions.

John has extensive experience developing landscape-scale greenhouse gas inventories and baselines at county and watershed scales using land-cover-based stratification approaches. His work includes identifying and quantifying management activities that improve greenhouse gas profiles relative to baseline projections, while also developing protocol and registry guidance needed to quantify, verify, and account for resulting climate benefits.

He has worked extensively with public, private, and tribal landowners, NGOs, state and federal agencies, Resource Conservation Districts, and local communities. Within California’s redwood region, his experience includes work with Mendocino Redwood Company, Humboldt Redwood Company, Green Diamond Resource Company, Soper Wheeler, Redwood Empire, the Yurok Tribe, many small landowners, and the United States Forest Service.



Project Experience (Recent and Selected Older Projects)

Natural and Working Lands Carbon Offsets

IFM adaptation to Washington, Washington Department of Ecology. 2025. Forest Analyst. Drafted revision of the California compliance forest offset protocol baseline section for use in Washington based on feedback during workgroup process.

IFM adaptation to Washington, Washington Conservation Action. 2025. Forest Analyst. Participated in stakeholder workgroup meetings managed by Washington Department of Ecology.

Carbon Offset Evaluation on Shasta Forestlands, Campbell Global. 2024. Forest Analyst. Performed assessment of carbon offset opportunities for fire-damaged lands.

Growth Estimators for Mexico Forest Carbon Offset Projects, Climate Action Reserve. 2023 – 2024. Analyst. Developed increment data estimates from Mexico's National Forest Inventory by forest ecosystem to support individual tree growth estimates by species class and vigor class. Results are part of analytical tool package provided by the Climate Action Reserve for Mexican forest carbon projects.

Landscape Approach to Nature Designed Solutions (LANDS) Program., Mendocino Resource Conservation District and The Environmental Defense Fund. 2023 – 2024. Forest Analyst/Author. Developed a program concept to quantifying and rewarding climate beneficial activities on natural and working lands.

Management Support for Yurok Forest Carbon Projects, Yurok Tribe. 2023. Forest Analyst. Collaborated with Yurok Tribe to organize forest carbon projects, develop projected budget of carbon project management cost and revenues, and facilitated operations with consultants.

Developed Recommendations for Revisions to Urban Forest Protocol, Washington Conservation Action, 2022. Forest Analyst. Provided recommendations for revisions to the California Urban Forest Protocol for use in Washington.

Emissions Assessment of Site Preparation Activities with Reforestation Project in Modoc County, Collins Pine. 2021. Analyst. Stratified and sampled brush and grass competition in reforestation unit following fire salvage.

Broad Assessment of Carbon Market Opportunities on Washington Department of Natural Resources Lands, Renew West. 2020. Forest Analyst. Performed an assessment of DNR lands and carbon offset opportunities by region using conceptual baseline approaches and provided inventory data.

Mariposa County Application of Application of 'Resilient Counties Guide' Quantification and Terra Count to Mariposa County, Tukman Geospatial. 2019. Forest Analyst. Modeled GHG benefits associated with forests management and restoration opportunities unique to Mariposa County.

Development of Resilient Counties Guide, The Nature Conservancy/California Department of Conservation. 2018. Forest Analyst. Developed time sequenced, wall to wall inventories of GHG stocks and emissions associated with natural and working lands within Merced County to quantify baseline trends. Developed



discrete management practice guidelines to improve future trajectories. Authored related technical sections.

*Analysis of Forest Carbon Offset Potential in Panama, World Bank. 2020. **Analyst/Author.*** Through coordination with Panamanian government officials, analyzed opportunities for forest carbon projects based on Panamanian law and ownership patterns. I submitted a report to the World Bank with findings.

Forest Management Planning

*Revision of Jackson State Demonstration Forest Management Plan, Clifton Environmental. 2025. **Forest Analysis and Planning.*** Drafted inventory and silviculture sections with multi-stakeholder team.

*Timber Inventory Methodology and Analytical Tool Package, Redwood Empire. 2024 -2025. **Forest Analysis and Planning.*** Develop timber inventory methodology for ~100,000-acre ownership that includes a stratification design using Lidar data, random plot allocation, and measurement standards. An Access database with built-in analysis computing and reporting was included. The effort was part of compliance monitoring under California Forest Practice Rules.

*Forest Health Planning, Lake County Resource Conservation District. 2025 – present. **Forest Analysis and Planning.*** Provided support to staff to develop strategies for fuel reductions and reforestation with private landowners and Mendocino National Forest.

*West Lassen Headwaters Project, Sierra Institute for Community and Environment and Lassen National Forest. 2024-2025. **Forest Analysis and Planning.*** Performed comparative analysis between a no-action alternative and the proposed action silviculture/restoration. Analysis consisted of reporting on current and future (grown) forest density metrics, vulnerability to wildfire, and GHG accounting.

*Moore Creek Forest Management Plan, Napa Resource Conservation District. 2024. **Forest Analysis and Planning.*** Support Napa RCD staff with data collection, analysis, and drafting of forest management plan.

*Forest Timber Valuation on Private Ownerships (three properties) in Northern Mendocino County, California Coastal Conservancy. 2024. **Forest Analysis and Planning.*** Analyzed inventory and growth and yield analysis to validate timber valuation for purposed of conservation transaction. Analysis involved validation of timber inventory methodology and data, harvest projections, logging costs and delivered log values.

*Lake Hennessy Forest Management Plan, Napa Resource Conservation District. 2023 – 2024. **Forest Analysis and Planning.*** Support Napa RCD staff with data collection, analysis, and drafting of forest management plan within watershed that provides drinking water to County of Napa residents.

*Fire Model Tool, Mendocino County Resource Conservation District. 2021. **Forest Analysis and Planning.*** Developed a fire risk tool based on linking project inventory data to stand conditions that were pre-modeled for fire behavior to assist in management plan development.

Forest Valuation

*Forest Timber Valuation on Private Ownership in Sonoma County, California Coastal Conservancy. 2025. **Forest Analysis and Planning.*** Analyzed inventory and growth and yield analysis to validate timber



valuation for purposes of a conservation transaction. Analysis involved validation of timber inventory methodology and data, harvest projections, logging costs and delivered log values.

Forest Timber Valuation on Private Ownership on Hoopa Reservation, California Coastal Conservancy. 2024. Forest Analysis and Planning. Analyzed inventory and growth and yield analysis to validate timber valuation for purposes of conservation transaction. Analysis involved validation of timber inventory methodology and data, harvest projections, logging costs and delivered log values.

Timber Valuation of Potential Conservation Easement in Mendocino County, The Nature Conservancy. 2019. Forest Analysis and Planning. Analysis consisted of developing and projecting the effect of conservation strategies on forest management in redwood forests, with the purpose of defining a monetary value for encumbrances.

Timber Valuation of Willits Woods, Confidential Client. 2019. Forest Analysis and Planning. Analysis involved validation of timber inventory methodology and data, modeling inventory according to selected silviculture scenarios, and performing a net present value of periodic cash flows.

Timber Valuation of Pacific Lumber Company, Mendocino Redwood Company. 2000. Forest Analysis and Planning. Analysis consisted of performing growth and yield projections using project data incorporating project Habitat Conservation Plan, California Forest Practice Rules, and envisioned management scenarios.

Employment History

- Dogwood Springs Forestry, Climate and Forest Management Consulting 2019 to present.
- Climate Action Reserve, Vice President of Forestry, 2005 – 2019.
- Mendocino Redwood Company, Forest Inventory and GIS Manager, 1998 – 2005.
- Louisiana Pacific Corporation, Forest Inventory and GIS Manager, 1993 – 1998.
- Northern Humboldt Union School District, Secondary Instructor, 1989 – 1993.
- International Rescue Committee, Pakistan, Reforestation Agent, 1989.
- Redwood Sciences Laboratory, Forest/Biology Technician, 1988.
- Tongass National Forest, Forest Inventory Technician, 1987.
- Peace Corps Volunteer, Democratic Republic of Congo, 1981 – 1983.

Select Publications

Remucal, J, Nickerson, J. 2023. *Methodology for Reduced Emissions from Megafire Protocols, Version 1.0.* <https://climateforward.org/program/methodologies/>.

Passero, M. et al. 2023. *Resilient Counties Guide.* <https://maps.conservation.ca.gov/TerraCount/>.²

² Authored land classification, natural and working lands inventories, and activity guides.



Remucal, J, Nickerson, J. 2022. *Reforestation, Version 1.0*.
<https://climateforward.org/program/methodologies/>.

Remucal, J, Nickerson, J. 2020. *Mature Forest Management, Version 1.0*.
<https://climateforward.org/program/methodologies/>.

Anderegg, W.R.L., Trugman, A.T., Badgley, G., Anderson, C.M., Bartuska, A., Ciais, P., Cullenward, D., Field, C.B., Freeman, J., Goetz, S.J., Hicke, J.A., Huntzinger, D., Jackson, R.B., Nickerson, J., Pacala, S., and Randerson, J.T. 2020. *Climate-driven risks to the climate mitigation potential of forests*. *Science* 368(6497).

Nickerson, J. 2017. *Carbon Inventory Estimates for the North Coast Resource Partnership*. North Coast Resource Partnership.
https://northcoastresourcepartnership.org/site/assets/uploads/2018/06/NCRP_Report_Nickerson_v2.pdf

Nickerson, J. (Lead Author), 2014. *Climate Action Reserve Urban Forest Protocol, Version 1.0*³.
<https://climateactionreserve.org/how/protocols/ncs/urban-forest/dev/>.

Nickerson, J. (Lead Author), 2013. *Climate Action Reserve Mexico Forest Project Protocol, Version 1.0*⁴.
<https://climateactionreserve.org/how/protocols/ncs/mexico-forest/>.

Nickerson, J. (Lead Author), 2009. *Climate Action Reserve U.S. Forest Offset Protocol, Version 3.1*⁵.
<https://climateactionreserve.org/how/protocols/ncs/forest/dev/>.

Nickerson, J. (Lead Author). 2025. *LANDS (Landscape Approach to Nature-Designed Solutions): A Framework for Landscape-Scale Climate and Conservation Planning*. Sponsored by Environmental Defense Fund and led by the Mendocino County Resource Conservation District

³ Additional roles as lead or contributing author in all protocol updates to Version 2.0 (2014) and creation of Urban Forest Management Protocol (2019).

⁴ Additional roles as lead or contribution author in all protocol updates to Version 3.0 (2022).

⁵ Additional roles as lead or contributing author in all protocol updates to Version 5.1 (2023).



Appendix B: Exceptions Professional Services Agreement

If selected as the successful bidder, ICF looks forward to negotiating mutually agreeable contract terms and conditions; the requested exceptions shown below with green text as added language and removal of the strikethrough language.

Section 14. INDEMNIFICATION: A. Hold Harmless, Defense and Indemnification. CONTRACTOR shall hold harmless, defend and indemnify COUNTY and its agents, officers, officials, employees and volunteers from and against any and all **third party** claims, demands, losses, damages, liabilities, costs and expenses of any kind or nature, including, without limitation, **reasonable** attorney's fees and other costs of litigation, **directly** arising out of, or in connection with, CONTRACTOR's negligent performance of, or failure to comply with, any of the duties and/or obligations contained herein, except such loss or damage which was caused by the sole negligence or willful misconduct of COUNTY.

B. Effect of Insurance. Acceptance of the insurance required by this Agreement shall not relieve CONTRACTOR from liability under this provision. This provision shall apply to all claims for damages related to CONTRACTOR's performance hereunder, regardless of whether any insurance is applicable or not. The insurance policy limits set forth herein shall not act as a limitation upon the amount of indemnification or defense to be provided hereunder.

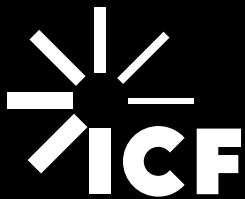
NOTWITHSTANDING ANY OTHER PROVISION TO THE CONTRARY HEREIN AND EXCEPT FOR COUNTY'S OBLIGATION TO PAY CONTRACTOR IN ACCORDANCE WITH THIS CONTRACT FOR SERVICES OR WORK PERFORMED OR DELIVERABLES DELIVERED, EACH PARTY'S LIABILITY FOR DAMAGES ARISING OUT OF OR RELATING IN ANY WAY TO THIS CONTRACT (INCLUDING ANY ORDER) SHALL BE STRICTLY LIMITED TO DIRECT DAMAGES AND SHALL IN NO EVENT EXCEED THE TOTAL CONTRACT AMOUNT WHICH HAS BEEN PAID TO CONTRACTOR BY COUNTY FOR CONTRACTOR'S PERFORMANCE UNDER THIS CONTRACT OR THE RELEVANT ORDER IN THE 12 MONTH PERIOD PRECEDING THE EVENT GIVING RISE TO SUCH LIABILITY. THIS LIMITATION OF LIABILITY APPLIES REGARDLESS OF WHETHER LIABILITY IS BASED ON BREACH OF CONTRACT, TORT, STRICT LIABILITY, BREACH OF WARRANTIES, INFRINGEMENT OF INTELLECTUAL PROPERTY, FAILURE OF ESSENTIAL PURPOSE OR OTHERWISE. FURTHER, NEITHER PARTY, NOR ANY OF ITS OFFICERS, DIRECTORS, EMPLOYEES, SHAREHOLDERS, OR OTHER REPRESENTATIVES, SHALL IN ANY EVENT BE LIABLE FOR LOSS OF PROFITS, REVENUE, DATA, USE, GOODWILL OR OTHER INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES SUFFERED BY THE OTHER PARTY OR OTHERS AS A RESULT OF PERFORMANCE OR NON-PERFORMANCE UNDER THIS AGREEMENT (INCLUDING WORK ORDERS), WHETHER OR NOT THE POSSIBILITY OF SUCH DAMAGES WAS DISCLOSED OR COULD HAVE BEEN REASONABLY FORESEEN.

~~Section 28. TITLE TO INFORMATION AND DOCUMENTS:~~ **5. LICENSE GRANT / DELIVERABLES.** Subject to County's payment in full and to the terms of this Agreement, Contractor grants to County the following license to use the Deliverables: a non-exclusive, non-transferable, perpetual license to use the Deliverables for Client's internal business purposes only.

County may not include any Deliverable or any portion thereof in work product offering materials without Contractor's prior written approval. If approved, the Deliverable shall be included in its entirety, together with any notices included in such Deliverable, and any such approved use shall be subject to these terms and conditions. Upon further request, Contractor may be willing to verify that the Deliverable is a true and accurate copy of Contractor's work product and accurately represents ICF's opinion as of the date the




~~analysis was performed. It is understood that any and all documents, information and reports concerning the subject matter of this Agreement prepared and/or submitted by CONTRACTOR shall become the property of COUNTY. However, CONTRACTOR may retain copies of such documents, information and reports for its records.~~ In the event this Agreement is terminated, for any reason whatsoever, **upon reasonable written request**, CONTRACTOR shall promptly turn over all such documents, information and reports to COUNTY without exception or reservation.




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About ICF

ICF is a leading global solutions and technology provider. At ICF, business analysts and policy specialists work together with digital strategists, data scientists and creatives. We combine unmatched industry expertise with cutting-edge engagement capabilities to help organizations solve their most complex challenges. Since 1969, public and private sector clients have worked with ICF to navigate change and shape the future. Learn more at icf.com.