UC ANR Logic Model for the Renewable Resource Extension Act 2018-2022 Strategic Plan

Situation Statement

"In 1978, Congress passed the Renewable Resources Extension Act (RREA) to provide for an expanded and comprehensive extension program for forest and rangeland renewable resources. States should develop a single comprehensive and coordinated renewable resource extension program in which land-grant university roles are well-defined."[1] Landowners and managers face challenges associated with invasive species, increased risk of destructive wildfires and climate change. Extending science-based information is essential for addressing resource management concerns from forest health to local economies. UC ANR uses RREA funds to provide grants to academics to expand the capacity of natural resource extension educators to deliver current, relevant, research-based programs to help forest and rangeland owners, communities, policymakers, and the public make informed decisions in areas of critical importance to the ecological, social, and economic well-being of California.

Purpose

The purpose of this logic model is to guide UC RREA grant applicants and the RREA Technical Advisory Committee in identifying projects that best achieve goals set forth in the [2018-2022 RREA Strategic Plan](#) and that help UC ANR achieve our desired condition changes. Applicants should use this document to help draft their proposals, and grantees of approved projects should use this document to aid in understanding what outcomes to include in their final report. This logic model can additionally be used as a reference tool when academics are initiating new extension projects or seeking other grants to articulate how our work addresses priority issue areas in California, and works towards condition changes and public values relative to the Division's vision for sustainable natural ecosystems.

For proposed or planned projects, PIs should:

The 2018-2022 RREA Strategic Plan identified nine critical issue areas.[2] Primary Investigators (PIs) should strive to incorporate the outputs and intended outcomes of the **public awareness critical issue area** into their projects. Additionally, proposed projects may incorporate multiple critical issue areas.

1. Review the first page of the logic model focused on public awareness and consider incorporating the outputs with the goal of achieving the outcomes into their project plan.

2. Identify which critical issue area(s) from the list below is (or are) relevant to the project and consider incorporating those specified outputs and outcomes into their project plan.
   a. Ecosystem Services, p. 3
   b. Fish and Wildlife habitat, p. 4
   c. Generational Succession and other Landownership Changes, p. 5
   d. Invasive Species, p. 6
   e. Rural Communities, p. 7
   f. Water, p. 8
   g. Wildfire Prevention and Management, p. 9

Logic Model terms

> _**Inputs:**_ **What you invest.** This list will vary by project and could include: academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners.
>
> _**Outputs:**_ **What you do and who you reach.**
>> _Activities:_ could include developing products, resources, or curriculum; and conducting workshops, trainings, or meetings.
>> _Participants:_ could include meeting participants, the public, organization and agency staff, agencies, or decision-makers.
>
> _**RREA Project Outcome Indicators:**_ **What happened as a result of the project outputs?** These are the learning and behavior outcomes to be measured and reported in your final project report.
>> _Learning:_ could include change in awareness, knowledge, attitudes, skills, opinions, aspirations or motivations.
>> _Behavior:_ could include change in behaviors, practices, decision-making, policies or social action.
>
> _UC ANR Condition Changes:_ What will happen as a result of the project outcomes? As more people adopt the behavior changes associated with learning from your project outputs, it can contribute to changes in social, economic, civic or environmental conditions. In 2018, UC ANR identified 24 condition changes that are relevant to the work carried out by all of UC ANR's academics. When you report your RREA projects in Project Board you will include the relevant condition changes your project is intended to impact. Best practice is to identify a specific indicator to which your project outcomes will contribute. ==See the Condition Change Tip Sheet.==
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> _UC ANR Public Values:_ What difference does UC ANR make in California? In 2018 UC ANR also identified seven [public values](#) that can be positively impacted by the work carried out by UC ANR academics. Condition changes and public values are included in the logic model to help frame a PIs justification for a project and make the connection between your outcomes and the long-term impacts that can result in part from your project.

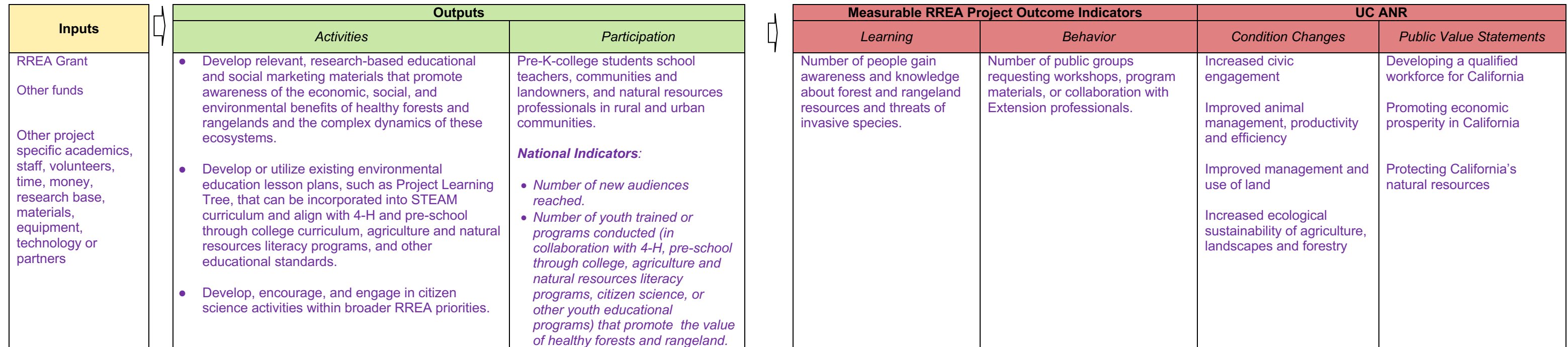[1] RREA 2018-2012 Strategic Plan, p. 4.

[2] In addition to the eight critical issue areas identified in this logic model, the RREA Strategic Plan includes a ninth critical issue area: Landowner Engagement. The logic model development committee found that the outputs and outcomes associated with Landowner Engagement would be addressed through projects that address the other critical issue areas.

RREA Logic Model   **Program Area: Public Awareness and Youth Engagement**

California's RREA Goal:

- Engage youth and adults about the importance of forest and rangeland resources, particularly how forest lands and rangelands affect rural and urban communities and the need to use science-based information when making decisions about these resources.

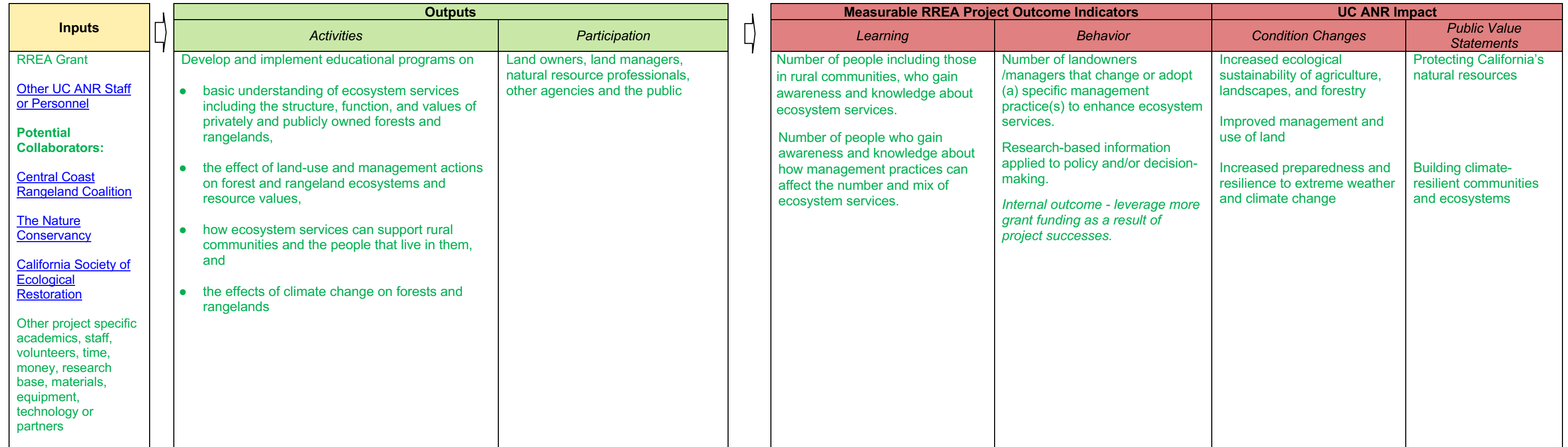| Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR	
	Activities	Participation	Learning	Behavior	Condition Changes	Public Value Statements
RREA Grant Other funds Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners	• Develop relevant, research-based educational and social marketing materials that promote awareness of the economic, social, and environmental benefits of healthy forests and rangelands and the complex dynamics of these ecosystems. • Develop or utilize existing environmental education lesson plans, such as Project Learning Tree, that can be incorporated into STEAM curriculum and align with 4-H and pre-school through college curriculum, agriculture and natural resources literacy programs, and other educational standards. • Develop, encourage, and engage in citizen science activities within broader RREA priorities.	Pre-K-college students school teachers, communities and landowners, and natural resources professionals in rural and urban communities. ***National Indicators*:** • *Number of new audiences reached.* • *Number of youth trained or programs conducted (in collaboration with 4-H, pre-school through college, agriculture and natural resources literacy programs, citizen science, or other youth educational programs) that promote the value of healthy forests and rangeland.*	Number of people gain awareness and knowledge about forest and rangeland resources and threats of invasive species.	Number of public groups requesting workshops, program materials, or collaboration with Extension professionals.	Increased civic engagement Improved animal management, productivity and efficiency Improved management and use of land Increased ecological sustainability of agriculture, landscapes and forestry	Developing a qualified workforce for California Promoting economic prosperity in California Protecting California's natural resources

RREA Logic Model   **Program Area: Ecosystem Services**

California's RREA Goals:

- Assist forest and rangeland owners and managers in actively managing their lands with knowledge of forest and rangeland ecosystem processes and how specific management strategies produce different combinations of ecosystem services.
- Assist forest and rangeland users in understanding the role different ecosystem services have on community well-being.

Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	*Participation*	*Learning*	*Behavior*	*Condition Changes*	*Public Value Statements*
RREA Grant Other UC ANR Staff or Personnel **Potential Collaborators:** Central Coast Rangeland Coalition The Nature Conservancy California Society of Ecological Restoration Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners	Develop and implement educational programs on ● basic understanding of ecosystem services including the structure, function, and values of privately and publicly owned forests and rangelands, ● the effect of land-use and management actions on forest and rangeland ecosystems and resource values, ● how ecosystem services can support rural communities and the people that live in them, and ● the effects of climate change on forests and rangelands	Land owners, land managers, natural resource professionals, other agencies and the public	Number of people including those in rural communities, who gain awareness and knowledge about ecosystem services. Number of people who gain awareness and knowledge about how management practices can affect the number and mix of ecosystem services.	Number of landowners /managers that change or adopt (a) specific management practice(s) to enhance ecosystem services. Research-based information applied to policy and/or decision-making. *Internal outcome - leverage more grant funding as a result of project successes.*	Increased ecological sustainability of agriculture, landscapes, and forestry Improved management and use of land Increased preparedness and resilience to extreme weather and climate change	Protecting California's natural resources Building climate-resilient communities and ecosystems

RREA Logic Model　　　　**Program Area: Fish and Wildlife Habitat**

California's RREA Goals:

- Ensure that private landowners and natural resource professionals have the best available information about fish and wildlife resources to make informed decisions about habitat management in forest and rangeland ecosystems.

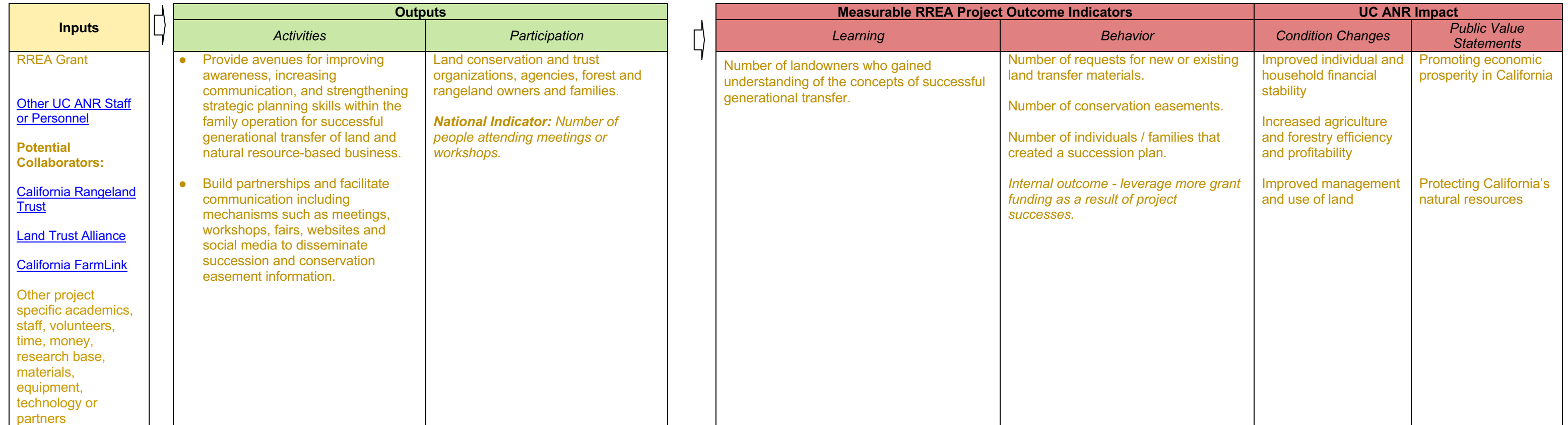| Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	*Participation*	*Learning*	*Behavior*	*Condition Changes*	*Public Value Statements*
RREA Grant Other UC ANR Staff or Personnel **Potential Collaborators:** Resource Conservation Districts Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners	Partner with other agencies & develop and implement educational programs for landowners and natural resource professionals that • focus on fish and wildlife habitat management, and • address how fish and wildlife are responding to climate variability and possible strategies to mitigate its negative effects. Develop and implement peer-to-peer and citizen science programs to engage landowners in stewarding fish and wildlife resources.	Land owners, land managers, natural resource professionals, other agencies and the public	Number of people with increased awareness and knowledge about the benefits, methods, and opportunities for fish and wildlife habitat improvement and management.	Number of people who implemented at least one fish or wildlife habitat management practice. Number of forest and rangeland landowners with riparian areas who improved fish or wildlife habitat. Research-based information applied to policy and/or decision-making. *Internal outcome - leverage more grant funding as a result of project successes.*	Improved management and use of land Increased ecological sustainability of agriculture, landscapes, and forestry Improved water quality Increased preparedness and resilience to extreme weather and climate change	Protecting California's natural resources Building climate resilient communities and ecosystems

RREA Logic Model   **Program Area:** <u>Generational succession and other land-ownership changes</u>

California's RREA Goals:

- Enhance the decision-making ability of ranch and forest landowner families for generational succession by providing information on and facilitating communication about such planning options as conservation easements, community-based natural resources management or other non-traditional succession models.
- Train and link interested parties in collaborative partnerships that will augment generational transfer of forest and rangeland enterprises.

Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	*Participation*	*Learning*	*Behavior*	*Condition Changes*	*Public Value Statements*
RREA Grant Other UC ANR Staff or Personnel **Potential Collaborators:** California Rangeland Trust Land Trust Alliance California FarmLink Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners	• Provide avenues for improving awareness, increasing communication, and strengthening strategic planning skills within the family operation for successful generational transfer of land and natural resource-based business. • Build partnerships and facilitate communication including mechanisms such as meetings, workshops, fairs, websites and social media to disseminate succession and conservation easement information.	Land conservation and trust organizations, agencies, forest and rangeland owners and families. **National Indicator:** *Number of people attending meetings or workshops.*	Number of landowners who gained understanding of the concepts of successful generational transfer.	Number of requests for new or existing land transfer materials. Number of conservation easements. Number of individuals / families that created a succession plan. *Internal outcome - leverage more grant funding as a result of project successes.*	Improved individual and household financial stability Increased agriculture and forestry efficiency and profitability Improved management and use of land	Promoting economic prosperity in California Protecting California's natural resources

5

RREA Logic Model **Program Area: Invasive Species**

California's RREA Goals:
- Increase the capacity of landowners, managers, and professionals to assess the threat of invasive species; develop Integrated Pest Management Plans; and implement effective invasive species management and control strategies to protect forest and rangeland ecosystems.
- Provide means for the general public (including absentee landowners), youth, and community groups for their interaction and participation in monitoring and controlling invasive species.
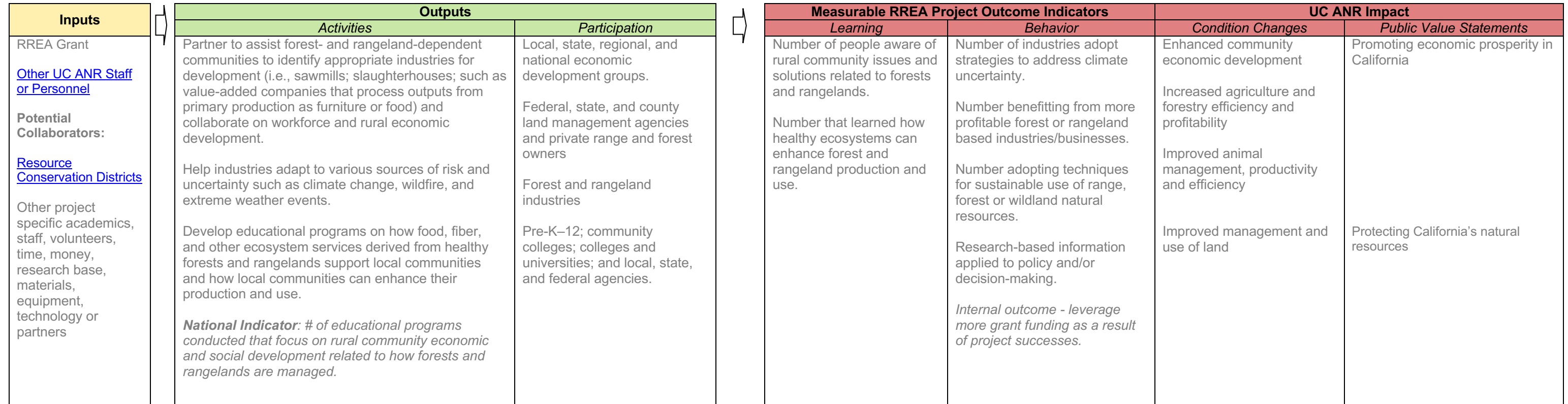
Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	*Participation*	*Learning*	*Behavior*	*Condition Changes*	*Public Value*
RREA Grant

Other UC ANR Staff or Personnel

Potential Collaborators:

Cal-IPC

California Dept. of Fish & Wildlife

UC Riverside Center for Invasive Species Research

Weed Management Areas

California Dept. of Food and Agriculture Invasive Pests & Diseases

California Dept. of Pesticide Regulation

Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners | Develop and provide educational materials to assist with prevention, identification and management of invasive species using Integrated Pest Management strategies that:

- Include implementation of long-term prevention (i.e. establish communities resistant to invasions),

- Include awareness of early detection, identification, and rapid response systems, and

- Use extension education to increase the capacity for early detection and management of invasive species, ensure that current research is relevant to invasive species management issues, and the exchange of knowledge is efficient and effective.

Facilitate collaboration to aid in the implementation of Integrated Pest Management plans that may cross multiple federal, state, county, and private boundaries.

Develop and/or participate in partnerships to increase the capacity of educational outreach efforts to respond to invasive species issues through identification and monitoring.

(**National Indicator**: *Number of educational programs, public awareness campaigns, and demonstrations of management and control strategies established by local and statewide partnerships.*) | Programs for natural resource managers and end-user groups such as forest owners, ranchers, and absentee landowners, who use Integrated Pest Management strategies.

Federal, state, and county land management agencies and private range and forest owners

General public, pre-K-college students, and community groups | Number of forest and rangeland owners and land managers who become aware of or knowledgeable about the impacts of invasive species. | Number of invasive species management and control programs developed or implemented on private or public lands.

Number of forest and rangeland owners who actively control and/or monitor invasive species through early detection, identification, and rapid response systems.

Research-based information applied to policy and/or decision-making.

Longer term: Number of acres of forest and rangeland ecosystems where invasive species are being monitored, managed, controlled, reduced, or eradicated.

Internal outcome - leverage more grant funding as a result of project successes | Improved management and use of land

Increased ecological sustainability of agriculture, landscapes, and forestry

Improved animal management, productivity and efficiency

Increased agriculture and forestry efficiency and profitability | Protecting California's natural resources

Promoting economic prosperity in California |

RREA Logic Model   **Program Area:** Rural Communities

California's RREA Goals:

- Work with rural communities to assess needs and determine how to sustainably enhance local economic development through a focus on forest and rangeland industries, infrastructure, and expertise.
- Create a stronger relationship between healthy forests and rangelands and the social and sustainable economic bases of rural communities. Assess needs and determine how to enhance local landscape economics.

Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	Participation	Learning	Behavior	Condition Changes	Public Value Statements
RREA Grant

Other UC ANR Staff or Personnel

Potential Collaborators:

Resource Conservation Districts

Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners | Partner to assist forest- and rangeland-dependent communities to identify appropriate industries for development (i.e., sawmills; slaughterhouses; such as value-added companies that process outputs from primary production as furniture or food) and collaborate on workforce and rural economic development.

Help industries adapt to various sources of risk and uncertainty such as climate change, wildfire, and extreme weather events.

Develop educational programs on how food, fiber, and other ecosystem services derived from healthy forests and rangelands support local communities and how local communities can enhance their production and use.

National Indicator: # of educational programs conducted that focus on rural community economic and social development related to how forests and rangelands are managed. | Local, state, regional, and national economic development groups.

Federal, state, and county land management agencies and private range and forest owners

Forest and rangeland industries

Pre-K–12; community colleges; colleges and universities; and local, state, and federal agencies. | Number of people aware of rural community issues and solutions related to forests and rangelands.

Number that learned how healthy ecosystems can enhance forest and rangeland production and use. | Number of industries adopt strategies to address climate uncertainty.

Number benefitting from more profitable forest or rangeland based industries/businesses.

Number adopting techniques for sustainable use of range, forest or wildland natural resources.

Research-based information applied to policy and/or decision-making.

Internal outcome - leverage more grant funding as a result of project successes. | Enhanced community economic development

Increased agriculture and forestry efficiency and profitability

Improved animal management, productivity and efficiency

Improved management and use of land | Promoting economic prosperity in California

Protecting California's natural resources |

RREA Logic Model **Program Area:** Water and Wetlands

California's RREA Goal:

- Encourage management of forests and rangelands to improve water quality and quantity.

Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	Participation	Learning	Behavior	Condition Changes	Public Value Statement
RREA Grant Other UC ANR Staff or Personnel **Potential Collaborators:** Resource Conservation Districts State Water Resources Control Board Water and Irrigation Districts Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners	• Develop and deliver outreach and education programs about the interdependence of healthy riparian and wetland ecosystems on private forests and rangelands. • Work in partnership with communities and stakeholders to create landscape-level plans (across ownerships) that address water, wetlands, and forest/ rangeland challenges.	Federal, state, and county land management agencies and private range and forest owners General public, Pre-K - college students, and community groups	Number of forest and rangeland landowners and managers who increased awareness or knowledge of the importance of water resources.	Number of public land managers and private landowners and managers who implemented at least one practice for the enhancement of water resources. Research-based information applied to policy and/or decision-making. *Internal outcome - leverage more grant funding as a result of project successes.*	Improved water quality Improved water-use efficiency Improved water-supply security	Protecting California's natural resources

RREA Logic Model   **Program Area: Wildfire Prevention and Management**

California's RREA Goals:

- Engage forest and rangeland communities with research-based information on wildfire risk-management and post-fire recovery strategies.
- Increase the capacity of community, county, and state emergency preparedness/civil defense authorities to communicate community needs and inform community-development policies, codes, and ordinances that protect communities from wildfire.
- Develop outreach efforts that include current and emerging research on impacts of wildfire on forest and rangeland ecology and economics, fuels management, and prescribed fire to create appropriate management strategies.
- Increase capacity for community action, empower landowners to engage in prescribed fire, and provide support for training and capacity in fuels reduction.

Inputs	Outputs		Measurable RREA Project Outcome Indicators		UC ANR Impact	
	Activities	*Participation*	*Learning*	*Behavior*	*Condition Changes*	*Public Value Statements*
RREA Grant

Other UC ANR Staff or Personnel

Potential Collaborators:

California Fire Safe Council

California Fire Consortium

Other project specific academics, staff, volunteers, time, money, research base, materials, equipment, technology or partners. | Develop & deliver research-based educational materials and programs on
- fire ecology,
- fuels management,
- laws and regulations,
- prescribed fire skills,
- wildfire risk-management, and
- development of fire adapted communities (use of defensible space, strategies to maintain structures and property to minimize loss during wildfire, post-fire recovery)

Engage authorities with relevant, research-based information on wildfire risk assessments and wildfire management strategies for communities.

Work collaboratively to identify knowledge gaps and deficiencies in:

- community development policy,
- codes, and ordinances that protect communities from wildfire;
- modes of emergency response
- fire planning (including fuels reduction and prescribed fire activities)

Connect with landowners & managers to locate funding and resources | Communities, home and land owners, and natural resource professionals

Professional natural resource managers, public and appointed officials including county and state emergency preparedness and civil defense authorities, and home and land owners

Policy-makers, community, county, and state emergency preparedness/civil defense authorities and community organizations

Forest and rangeland landowners and managers | Number of home and land owners who increase awareness and knowledge about wildfire risks.

Number of community members, emergency response agencies, and decision-makers that increase understanding of the impacts of fire ecology, prescribed fire, and fuel management on the ecology and management of forests and rangelands.

Number of people trained with knowledge and skills to implement prescribed fires. | Number of home and land owners that adopt relevant wildfire risk-management strategies.

Number of communities & landowners that become engaged and actively work to maintain a "fire-adapted" profile.

Number of project collaborations across and among response agencies, land managers, and communities.

Number of prescribed fires implemented.

Research-based information applied to policy and/or decision-making.

Internal outcome - leverage more grant funding as a result of project successes. | Increased preparedness and resilience to extreme weather and climate change

Improved management and use of land | Building climate-resilient communities and ecosystems

Protecting California's Natural Resources |