

El Centro para la Conservación del Paisaje ha adoptado la definición desarrollada por la Unión Internacional para la Conservación de la Naturaleza (UICN por sus siglas en inglés) para cuenca hidrográfica:



“LA CUENCA HIDROGRÁFICA ES UN SISTEMA INTEGRADO POR UNA UNIDAD GEOGRÁFICA, FORMADA POR UN RÍO PRINCIPAL Y TODOS SUS TERRITORIOS ASOCIADOS ENTRE EL ORIGEN DEL RÍO Y SU DESEMBOCADURA.

ESTO INCLUYE EL ÁREA Y LOS ECOSISTEMAS (TERRITORIOS Y RÍOS MENORES, AGUAS SUBTERRÁNEAS O ACUÍFEROS, ZONAS COSTERAS Y SU INFLUENCIA EN EL MAR), Y SUS INTERACCIONES QUE INCIDEN EN EL CURSO DEL AGUA, TANTO EN SU CANTIDAD COMO EN SU CALIDAD”

Similar a la definición de paisaje, las cuencas son sistemas complejos; que requieren de un manejo integrado que analice los elementos interconectados, sus comportamientos y efectos, entendiendo la jerarquía que compone y organiza las partes del sistema.



POR UN  
PAISAJE  
PARA  
TODOS

# Panel de Gerencia y Manejo

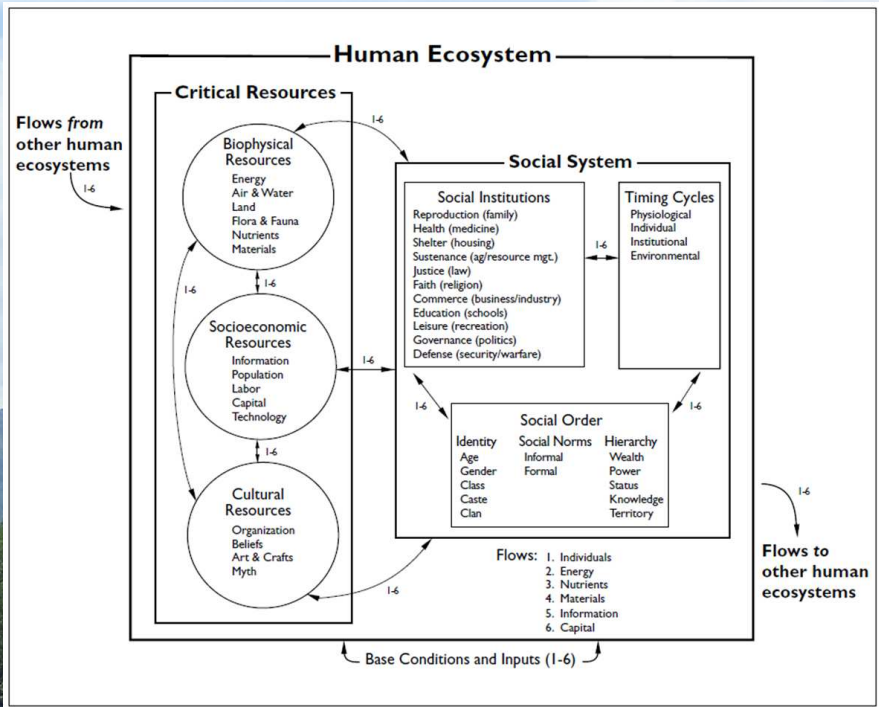
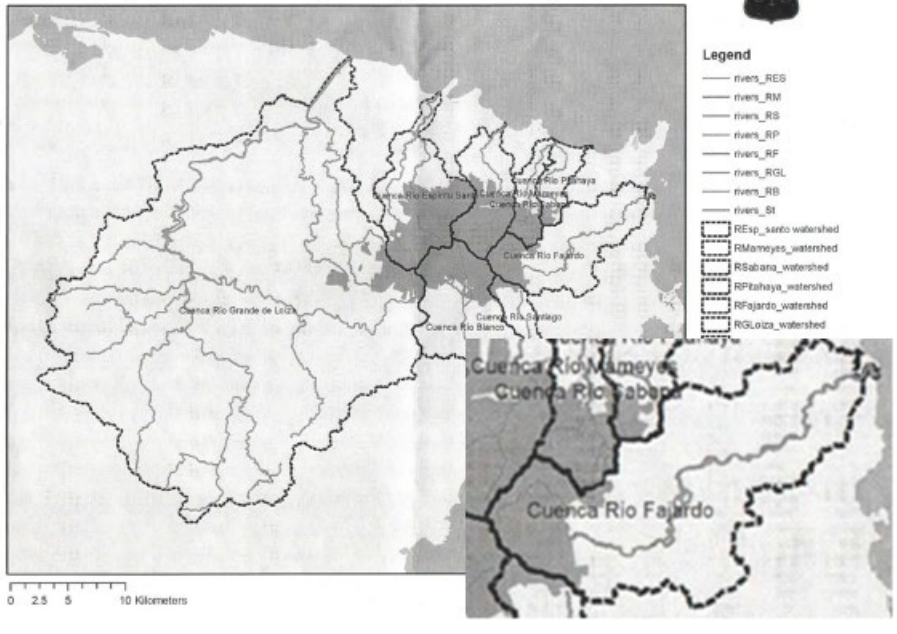
Simposio de Cuencas Hidrográficas de  
Puerto Rico 2022

Marzo 2022





### Spatial Relationship among Watersheds, EYNF



The Structure of Human Ecosystems, V05.2, Machlis et al (2005)

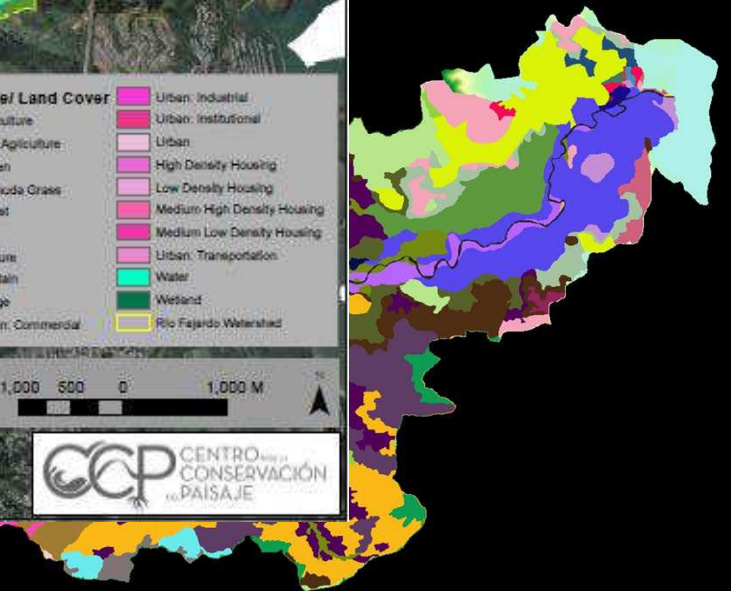
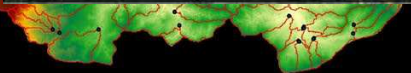
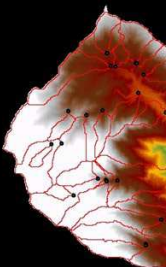
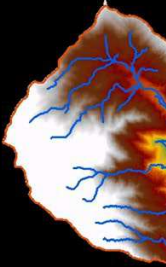
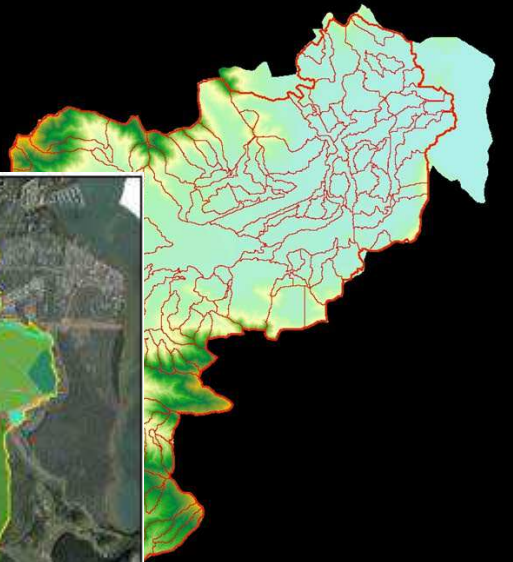
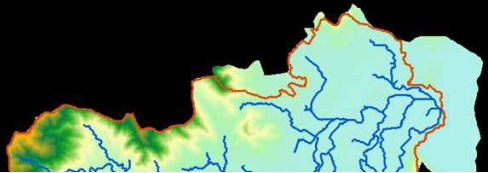
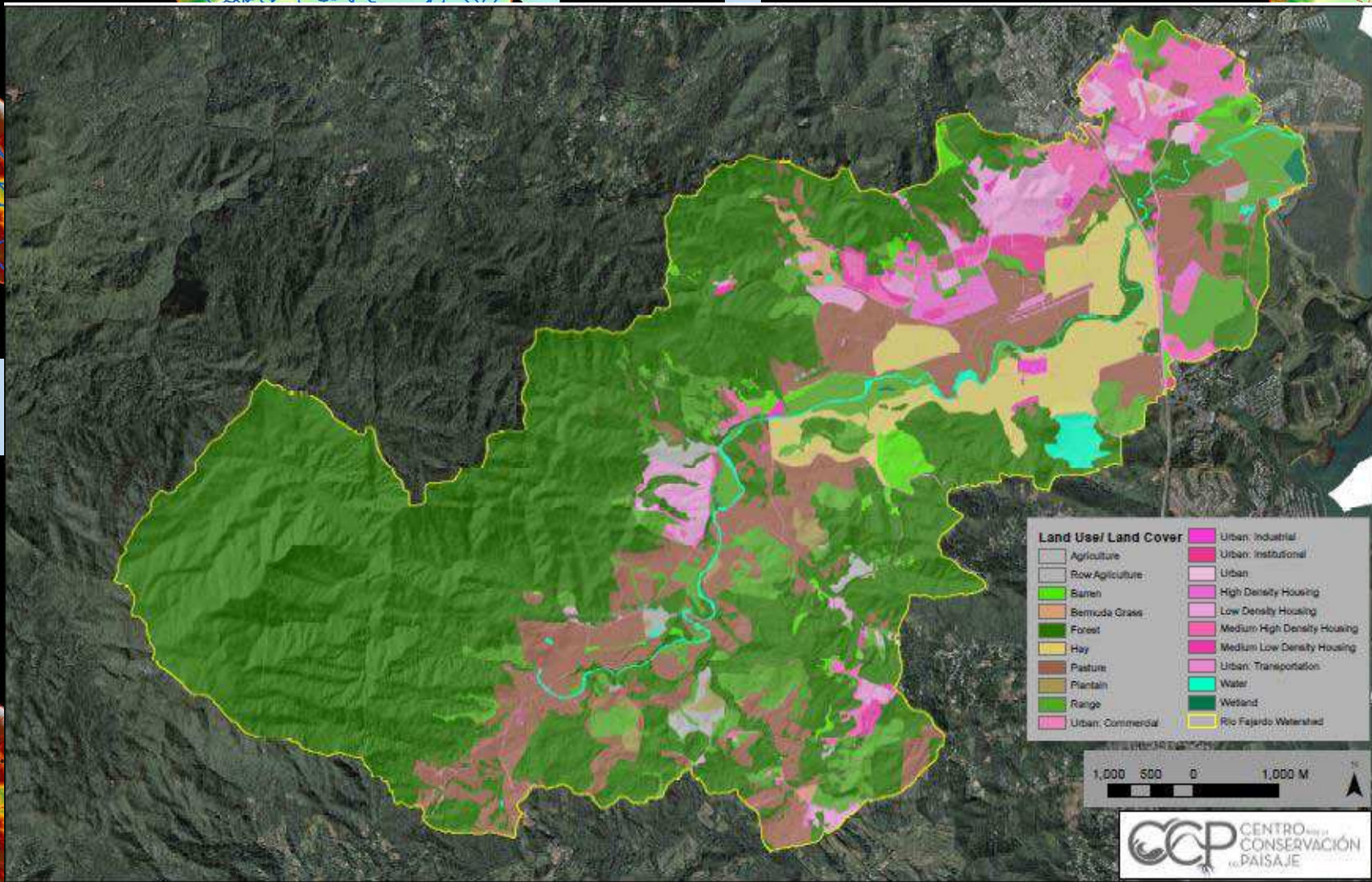
Un paisaje se puede definir como un sistema social y ecológico que consiste de un mosaico de ecosistemas modificados y/o naturales que muestran una configuración característica por su topografía, vegetación, usos de terreno e infraestructuras que a su vez es influenciada por los procesos ecológicos, históricos, económicos y culturales así como por las actividades que ocurren en el área.



# 1.¿Cómo se establece un plan de manejo y cómo se puede incorporar medidas de mitigación?

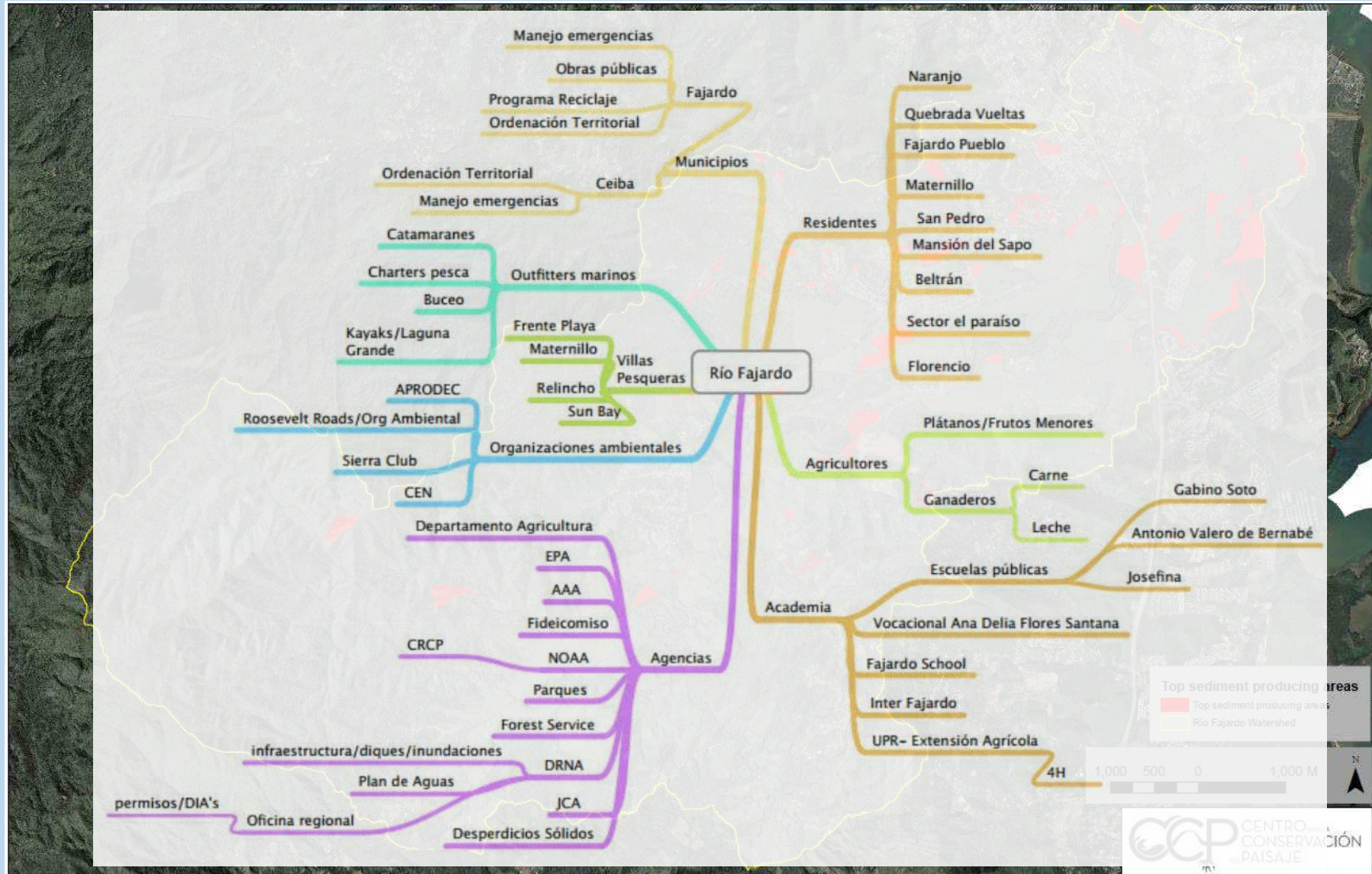








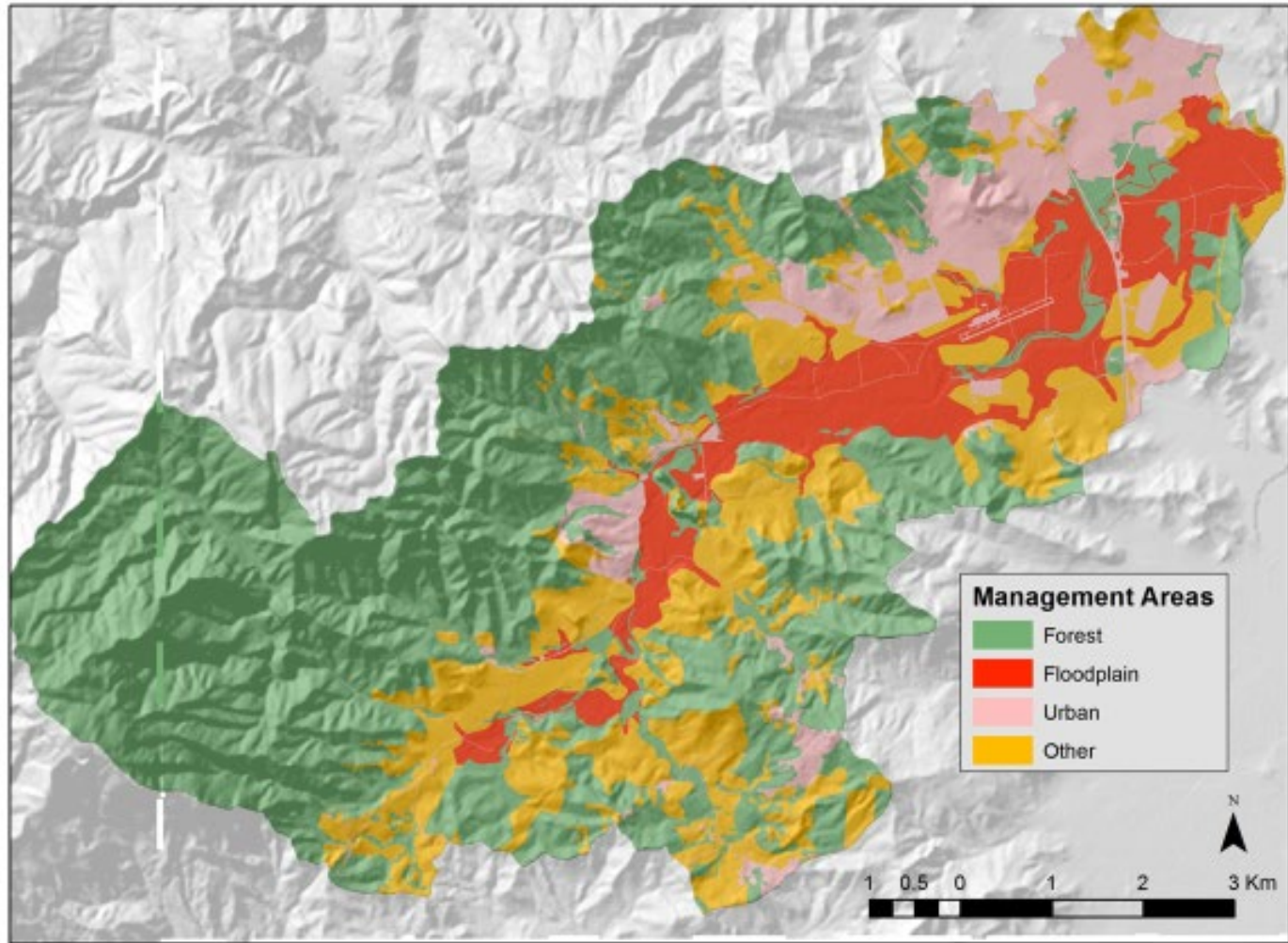
# Manejo y Conservación de la Cuenca Hidrográfica













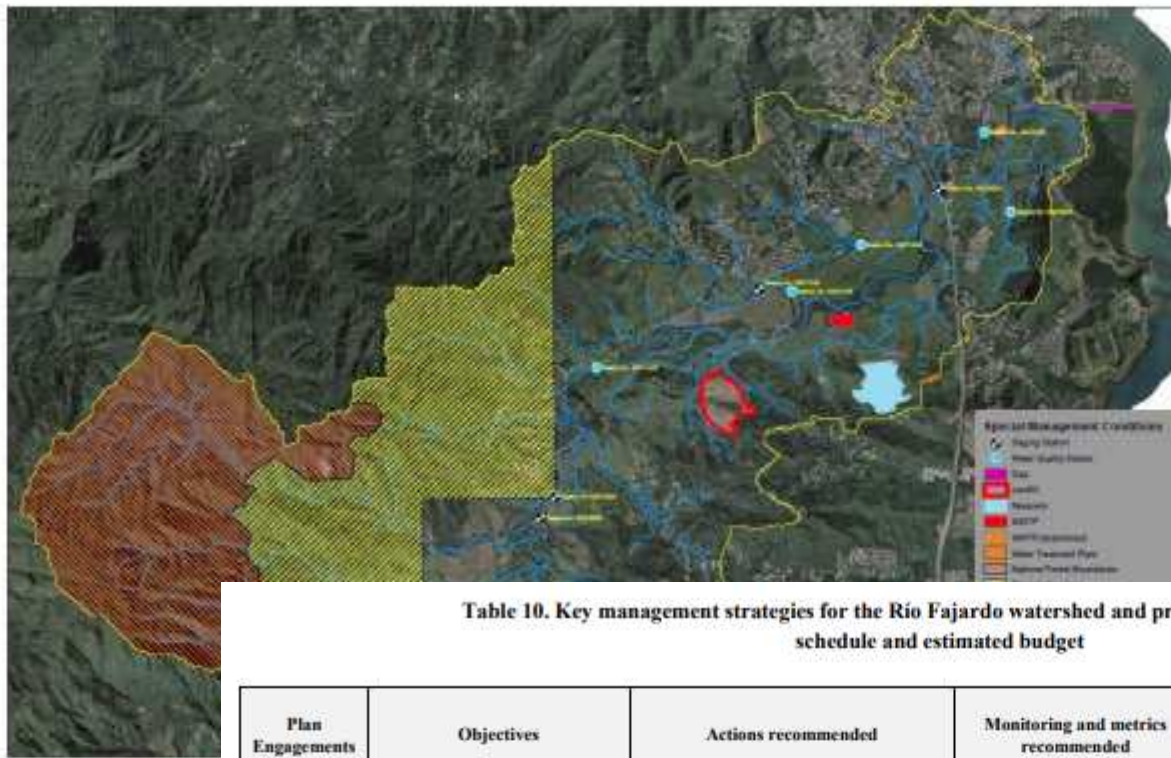
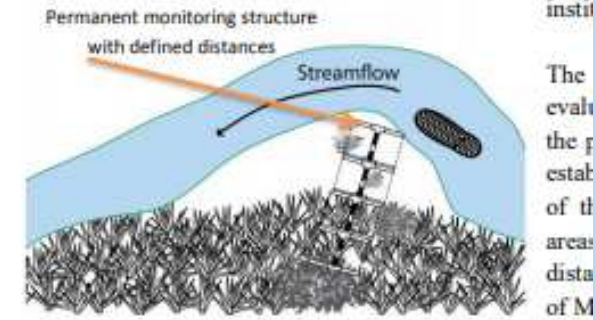


Figure 10

Table 10. Key management strategies for the Rio Fajardo watershed and preliminary implementation schedule and estimated budget

Plan Engagements	Objectives	Actions recommended	Monitoring and metrics recommended	Recommended lead or associated institutions	Implementation Year and Estimated Planning Level Cost (Thousands of \$)				
					1	2	3	4	5
<b>I. DEVELOPMENT OF THE GOVERNANCE STRUCTURE</b>	1. Develop a watershed management governance structure	1. Formalize a watershed governance structure- Create the Rio Fajardo Watershed Management Board (RFWMB)	# of meetings / formal registration of the group / work plan and meeting schedule	DNER and Municipalities	30	30	30	30	30
		2. Develop community watershed conservation councils	# of meetings / # of organized groups / community work plans	RFWMB and Municipalities	20	20	20	20	20
	2. Identify additional stakeholders and activities that involve vegetation clearing or management in the watershed	1. Do an assessment according to the land uses identified in the watershed management plan to extend and associate land impacts with specific stakeholders.	% of accomplishment and presentation of the assessment.	RFWMB	50	20			
	3. Define standards and guidelines to the management zones	1. Integrate a management committee in the RFWMB	# of meetings	RFWMB	N/A				
		2. Work with the management zones identified to define the standards and guidelines. Review conflicts and congruence's of land use regulations in the watershed.	# of meetings / work plan and definition of products	Management Committee of the RFWMB	60	30			
		3. Consider and apply the Multiple Indicator Monitoring (MIM) program	work plan and development of the MIMs Program	Management Committee of the RFWMB	10	75	75	75	75
		4. Identification of Designated Monitoring Areas (DMAs)	work plan and development of the DMAs Program for a monitoring program every two years	Management Committee of the RFWMB		100		100	



In terms of the infrastructure in the flood plain and in the road network within the watershed could be included



to define their MIM for re-routing road concern repeated produced by vegetation into the river

de los Pomales worried that in is an example zones for t



# ¿Cuáles son los retos de la implementación de un plan de manejo y a quién le toca resolverlos? Estructuras de gobernanza. ¿Cómo se desarrollan? ¿Ejemplos en PR? ¿Lecciones aprendidas? Sugerencias o plataforma de gobernanza sugerida.

## Estructura para la gerencia del manejo y conservación de la Cuenca Hidrográfica

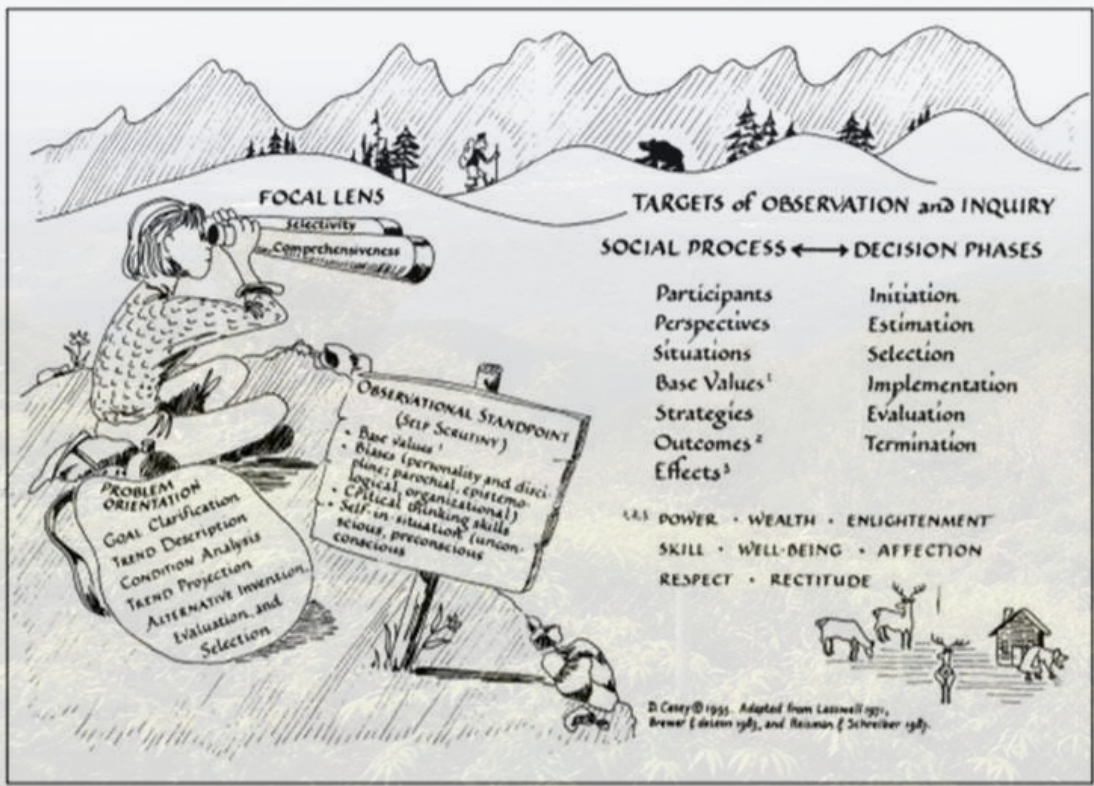
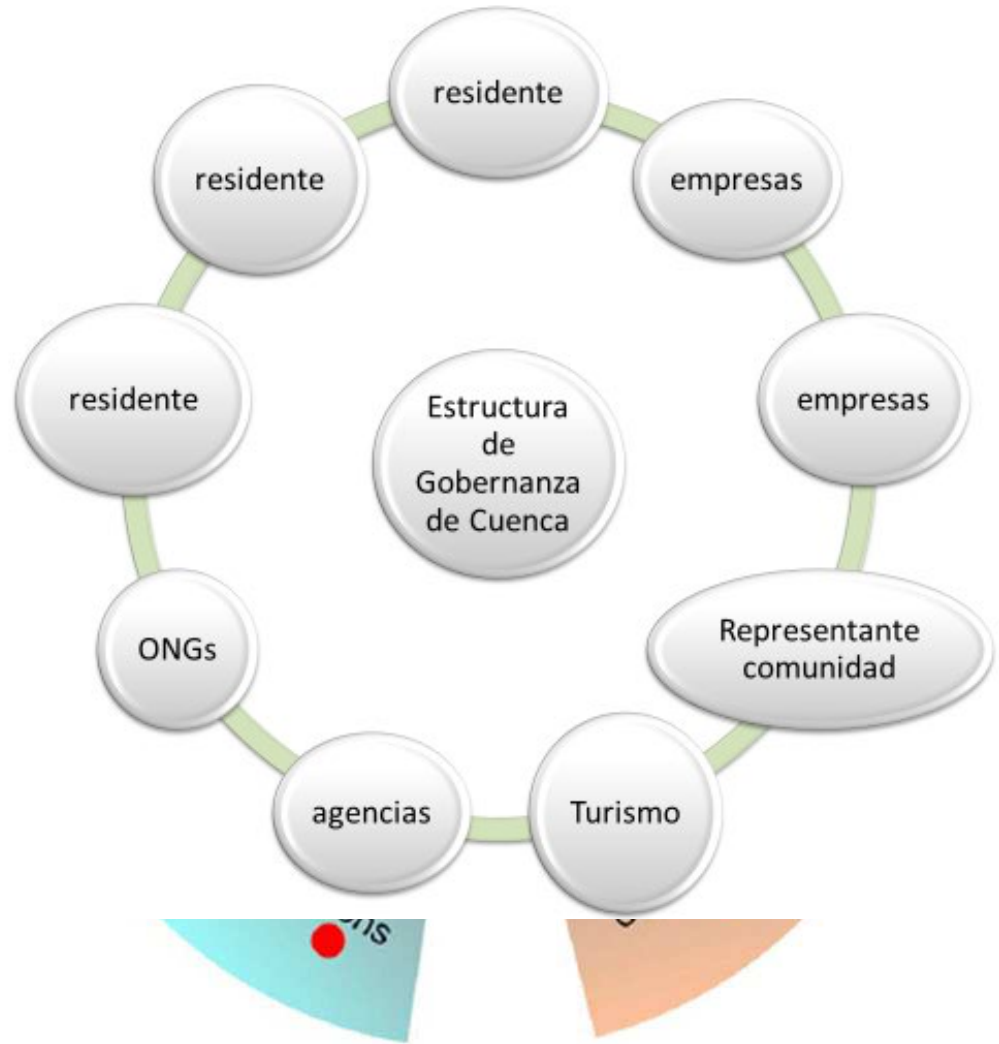


Figure 1 An illustration of the interdisciplinary approach to understanding and participating in the policy process. Participants should carry out a thorough problem orientation. They should observe and understand the social and decision process of which they are a part. And they should be clear on their observational standpoint. All participants in social and decision process reflect the eight base values

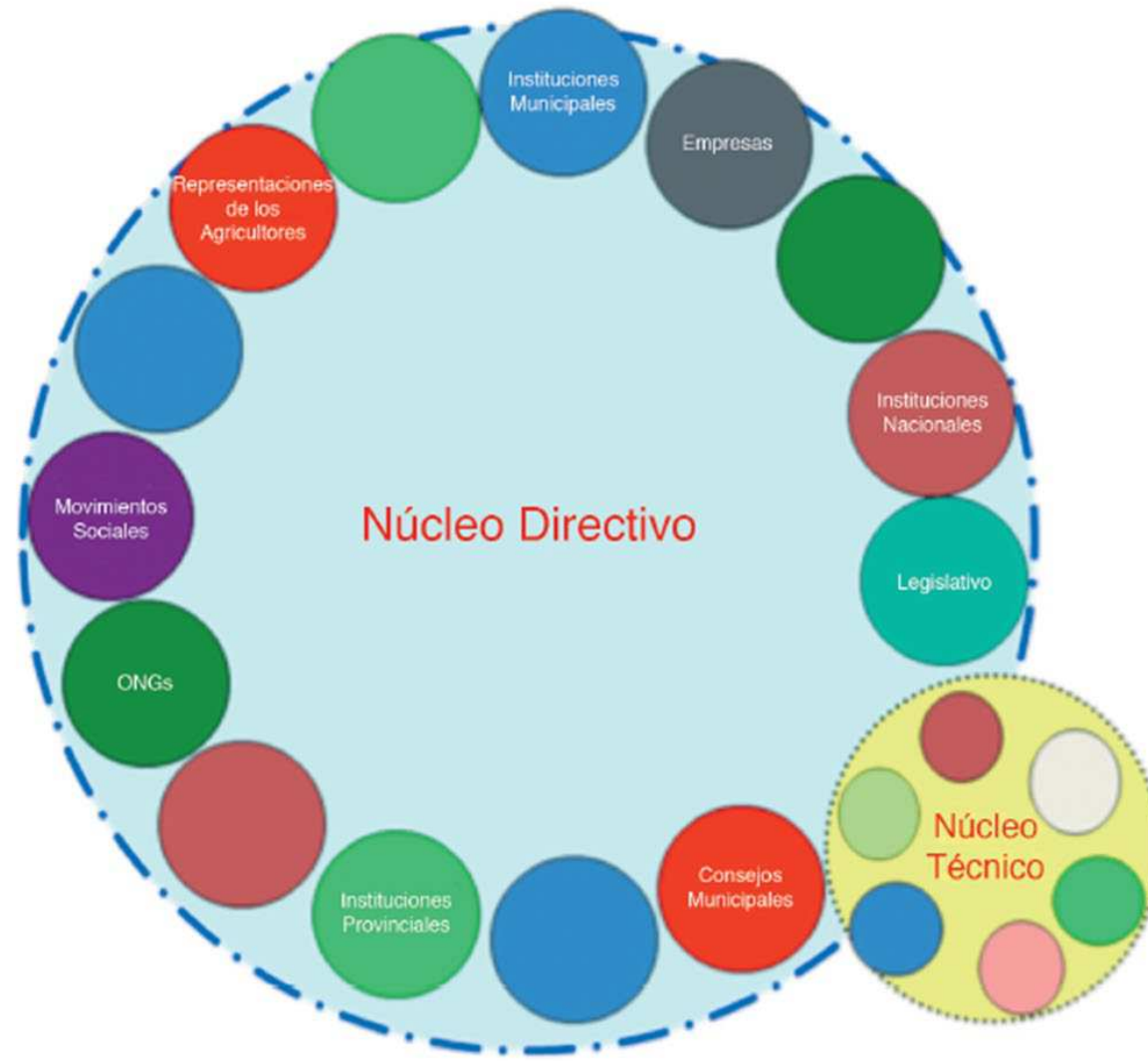
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**Fig. 1.** Different sectors of society involved in the use and management of the natural environment are schematically represented as different triangular slices. The red dots represent individual organizations or persons (i.e. actors) within each sector, and the lines represent relational ties among these. These relational ties can contribute to better natural resource governance by, for example, facilitating coordinated actions among different actors.



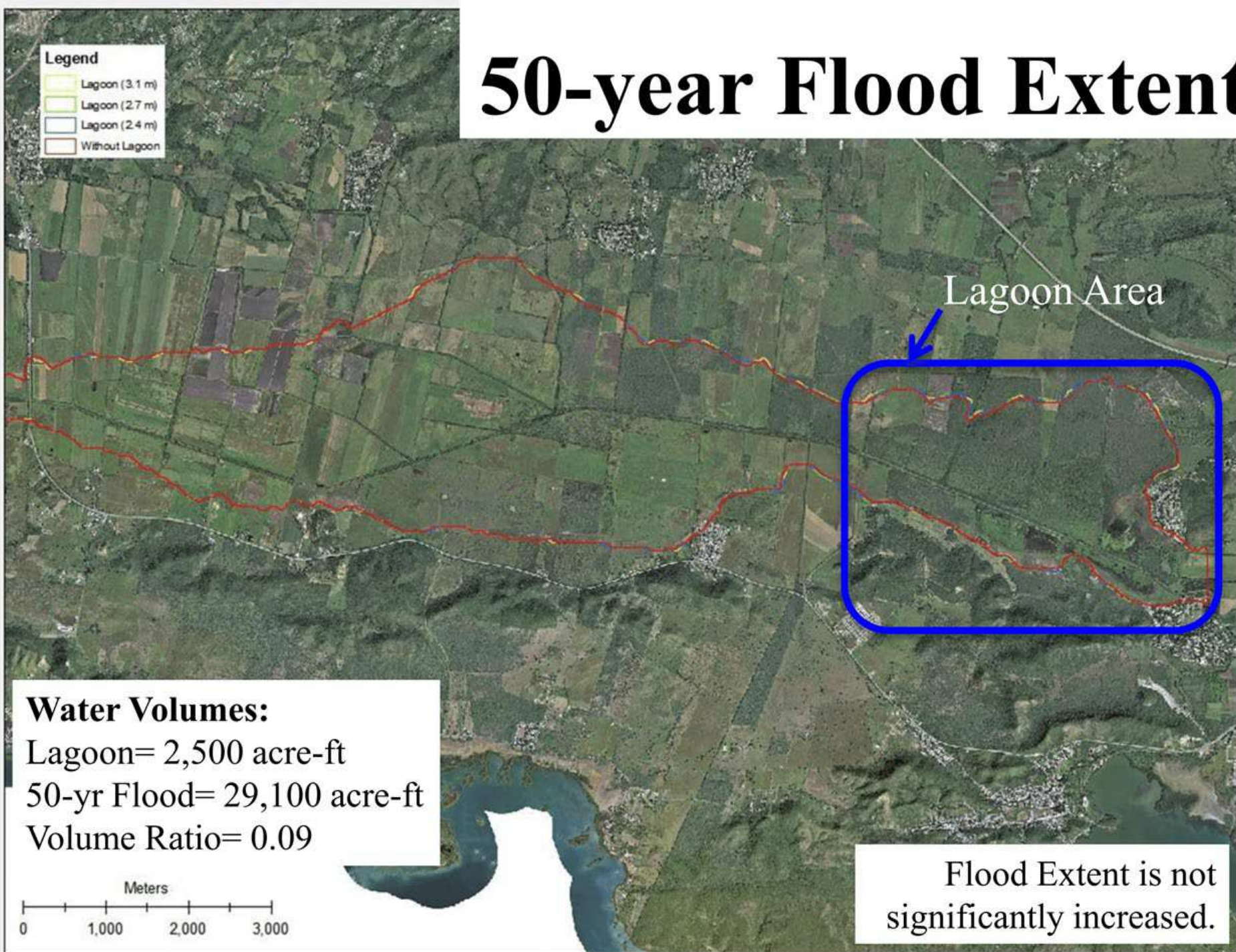
**Figura 3** Comisión de instalación de acciones territoriales



# 50-year Flood Extent

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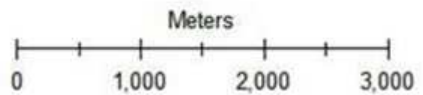
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- Legend**
- Lagoon (3.1 m)
  - Lagoon (2.7 m)
  - Lagoon (2.4 m)
  - Without Lagoon

Lagoon Area

**Water Volumes:**  
Lagoon= 2,500 acre-ft  
50-yr Flood= 29,100 acre-ft  
Volume Ratio= 0.09



Flood Extent is not significantly increased.



¿A quién le toca resolverlos?

COMO SIEMPRE: LO URGENTE NO DEJA TIEMPO PARA LO IMPORTANTE



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# Simposio de Cuencas Hidrográficas de Puerto Rico 2022

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