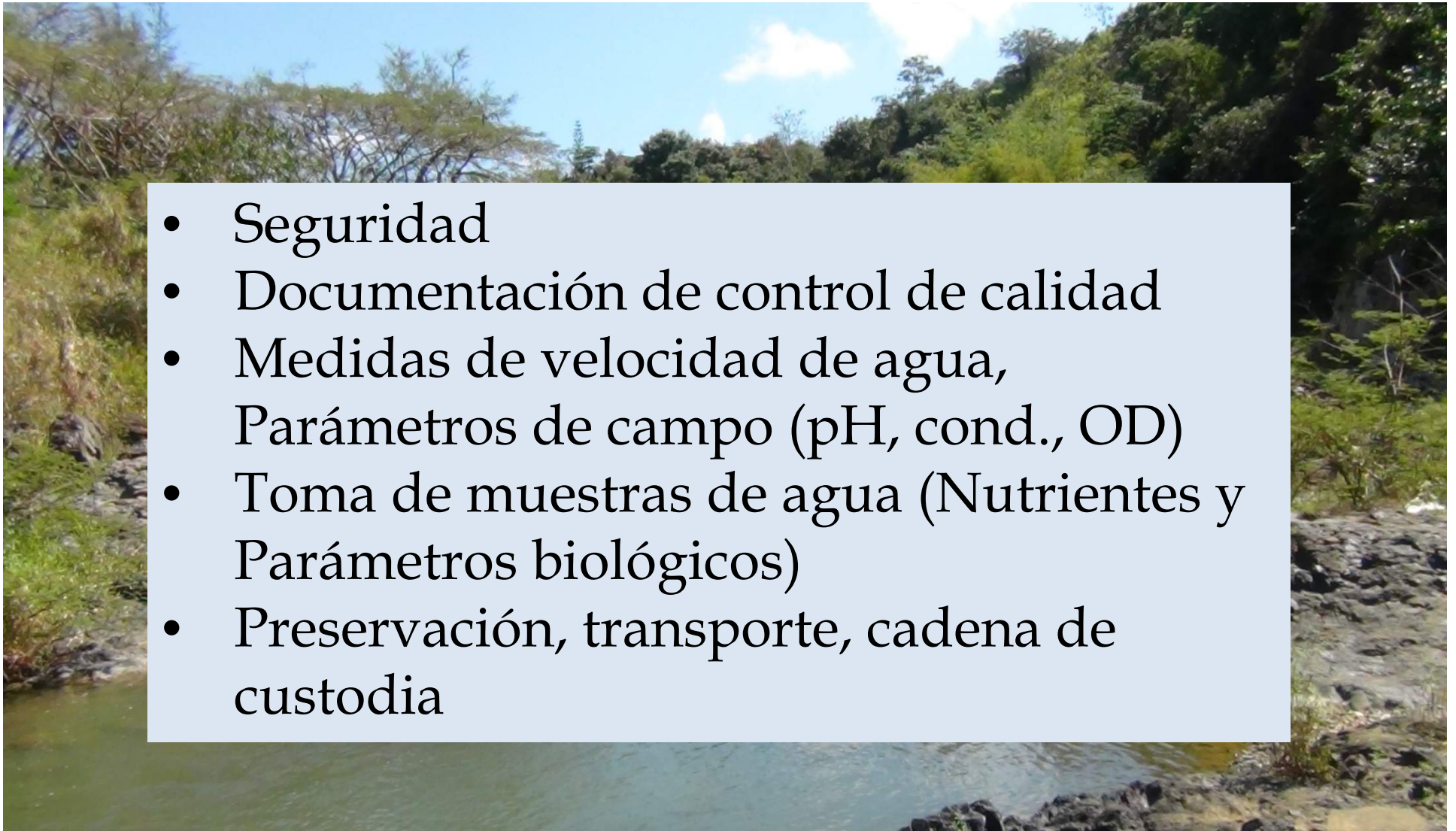


Materiales, métodos y asuntos de seguridad para evaluar la calidad de aguas en ríos de P.R.



Assessment of Water Quality and Efficacy of Water Treatment Infrastructure in Southwestern Puerto Rico

- Seguridad
- Documentación de control de calidad
- Medidas de velocidad de agua, Parámetros de campo (pH, cond., OD)
- Toma de muestras de agua (Nutrientes y Parámetros biológicos)
- Preservación, transporte, cadena de custodia



Seguridad



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PROYECTO: NUTRIENT LEVELS ASSOCIATED WITH ECOLOGICAL THRESHOLDS OF IMPAIRMENT
IN RESERVOIRS OF PUERTO RICO

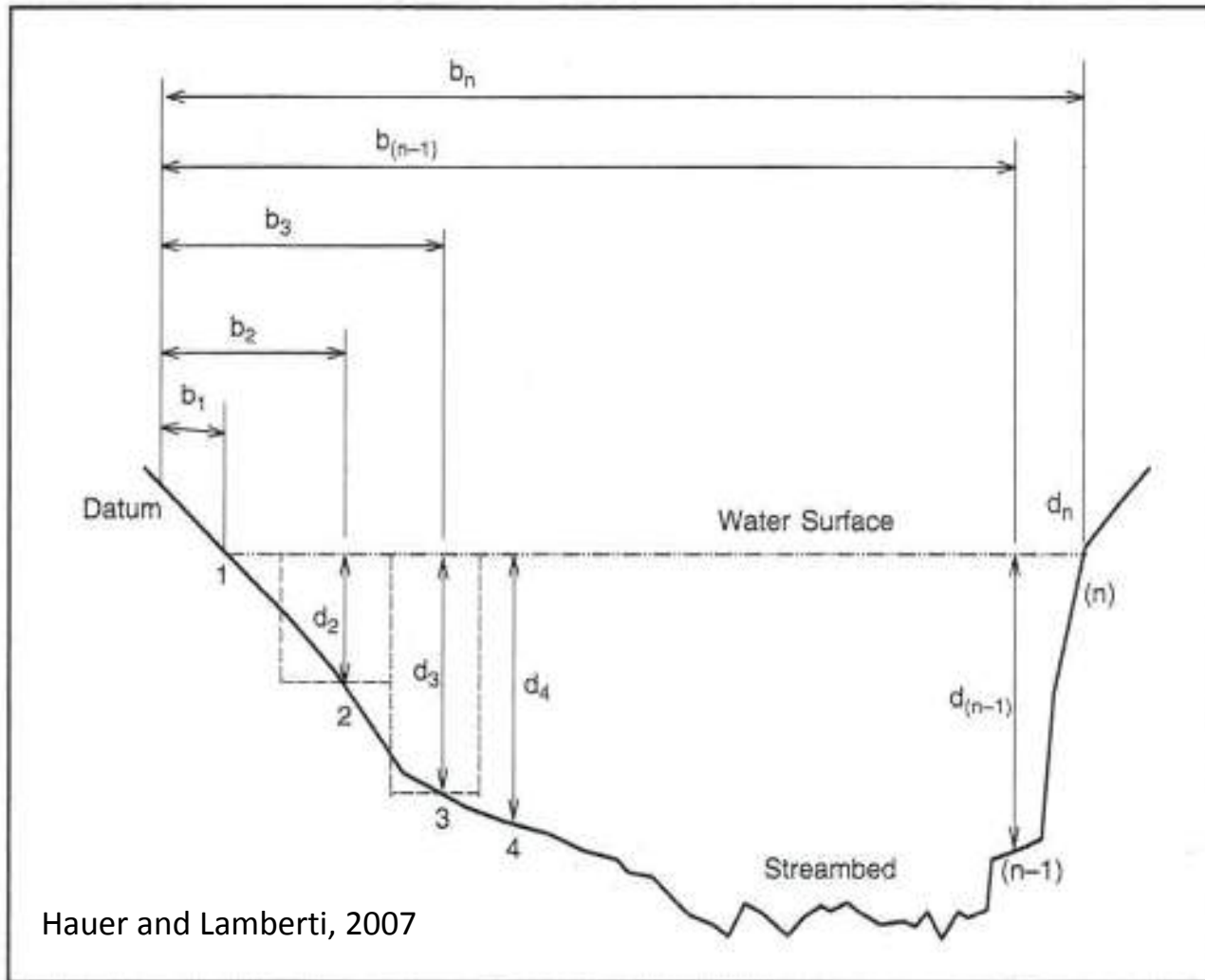
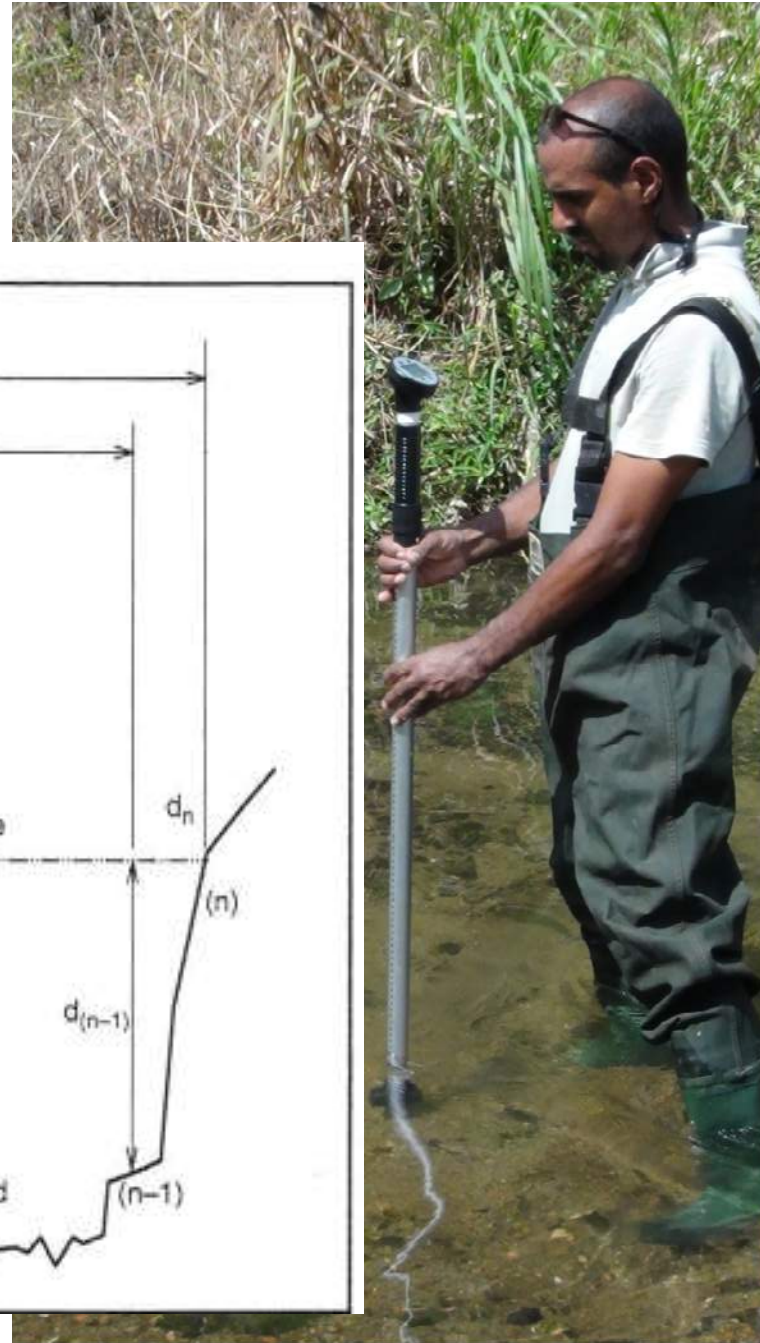
- Equipo adecuado
- # personas adecuadas
- Condiciones de campo

I. Documentos

- | | |
|---|---|
| ☐ Hoja de calibración del instrumento (una por día de muestreo). | ☐ Aparato de filtración con bomba manual de vacío. |
| ☐ Hoja de campo (una por día de muestreo). | ☐ Filtros de fibra de vidrio (Whatman GF/F 47-mm) |
| ☐ Hoja de cadena de custodia (una por cada muestra a coleccionar). | ☐ Pinzas |
| ☐ Etiquetas para rotular las muestras sellos de | ☐ Tubos de centrifuga amber (50 mL) |
| | ☐ Bolsas plásticas "ziplock" |



Velocidad del agua (estimados de flujo)



Hauer and Lamberti, 2007



Parámetros de campo (pH, cond, temp. OD)





Muestras de Agua

“Manos limpias/Manos sucias”







Preservación de muestras













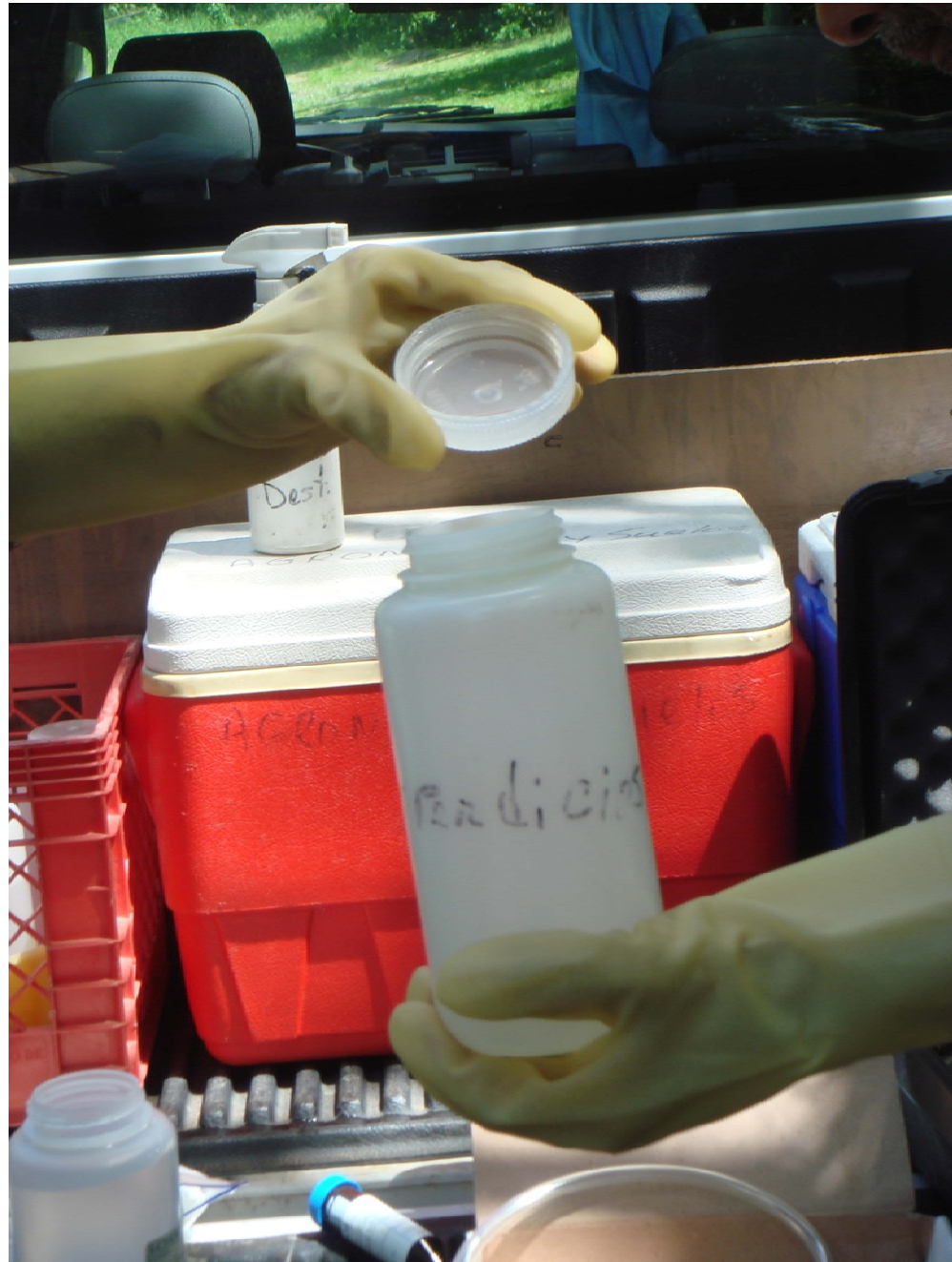








Manejo de Desperdicios









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**EEA-Z-268; Assessment water quality and efficacy of water treatment infrastructure
EQUIPMENT CALIBRATION FORM**

General Information:

Calibration date (month-day-year)		Calibration time	
Calibrated by		Sampling date	
Equipment name		Equipment serial number (SN):	

Calibration information:

Parameter	Units	Standard	Measured	Calibrated value
pH – 4 (if applicable)				
pH - 7				
pH – 10 (if applicable)				
Electrical conductivity				
Dissolved oxygen				

Comments



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EEA-Z-268; Assessment water quality and efficacy of water treatment infrastructure
FIELD DATA FORM

Sampling site description

Sampling site		Station identification	
Date (month-day-year)		Time	
Personnel (include all names)			
1.		4.	
2.		5.	
3.		6.	

Physical-chemical parameters

Equipment name / SN		
	Units	Value
Temperature		
Electrical conductivity		
pH		
Dissolved oxygen		

Hydrological data

Equipment name / SN		
	Units	Value
Water velocity		
Stream depth		
Stream width		
Observations		



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EEA-Z-268; Assessment water quality and efficacy of water treatment infrastructure
SAMPLE IDENTIFICATION FORM

Sampling site description

Sampling site		Station ID	
Date		Time	
Personnel (include all names)			
1.		4.	
2.		5.	
3.		6.	

Sample description

Sample number (Station ID-Set #) ¹	Bottle (A, B, C, D) ²	Preservative	Approximate sample volume (mL)

A – Nutrients and metals (1L bottle)

B – Nutrients dissolved (25 mL or 40 mL vials)

C – Microbiology and OBs (1L bottle)

D – Other (must specify under comments section)

TB – Trip blank

Comments

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¹ Example for station 05, with set # 134, use the following description: 05-134

² Example for the sample collected as described in footnote 1, with the sample to be analyzed for microbiology, use the following description: 05-134-C

Sheet # _____



**UNIVERSITY OF PUERTO RICO – MAYAGÜEZ CAMPUS
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AGRICULTURAL EXPERIMENTAL STATION**

**EEA-Z-268; Assessment water quality and efficacy of water treatment infrastructure
CHAIN OF CUSTODY FORM²**

Sample number (Station ID-Set #)	Date	Time	Relinquished	Received	Date	Time	Relinquished	Received	Date	Time	Relinquished	Received

Comments

² One sheet per station sampled