



ETERNALLY FORGOTTEN: THE OCEAN AND CONSERVATION

**JUAN CARLOS CASTILLA
DEPARTAMENTO DE ECOLOGIA
FACULTAD DE CIENCIAS BIOLÓGICAS
P. UNIVERSIDAD CATOLICA DE CHILE**

CEP/WCS/SS SEMINAR

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KEY DEFINITIONS IN CHILEAN LAWS

LEY N° 18.362, 27 DE DICIEMBRE 1984 " Del Establecimiento del Sistema Nacional de Áreas Silvestres Protegidas del Estado"

CONSERVACIÓN:

LA ADMINISTRACIÓN DE LA UTILIZACIÓN DE LA BIÓSFERA POR EL SER HUMANO, DE MODO QUE SE PRODUZCA EL MAYOR Y SOSTENIDO BENEFICIO PARA LAS GENERACIONES ACTUALES, PERO ASEGURANDO SU POTENCIALIDAD PARA SATISFACER LAS NECESIDADES Y ASPIRACIONES DE LAS GENERACIONES FUTURAS.

LA CONSERVACIÓN COMPRENDE ACCIONES DESTINADAS A LA PRESERVACIÓN, EL MANTENIMIENTO, LA UTILIZACIÓN SOSTENIDA, LA RESTAURACIÓN Y EL MEJORAMIENTO DEL AMBIENTE NATURAL

MANEJO:

LA SERIE DE PASOS O PROCEDIMIENTOS ADMINISTRATIVOS DIRIGIDOS A CONTROLAR EL USO DE LOS SISTEMAS NATURALES Y LOS RECURSOS CON OBJETIVOS ESPECÍFICOS (POR EJEMPLO, ENTRE OTROS, SU SOSTENIBILIDAD)

FOCUS OF THIS MEETING

PRIVATE SECTOR LEADERSHIP IN CONSERVATION FINANCE

“THE PRIVATE SECTOR AND ENVIRONMENTAL CONSERVATION:
BIODIVERSITY AND PROTECTED AREAS”

COMPANIES AND BUSINESS: MARKET TRANSABLE GOODS
KARUKINKA AND WCS: PROPERTY RIGHTS & CONSERVATION
BIODIVERSITY OFFSETS

FORESTS AND WOOD: RIGHTS, TRANSABLE GOOD AND SERVICES

ENVIRONMENTAL FRAMEWORKS: LEGAL ASPECTS
NON-TRADITIONAL INSTRUMENTS FOR THE PROTECTION OF
NATURAL RESOURCES CHILE, WORLD: BEYOND AND ABOVE THE LAW

OCEANS: Have they been eternally forgotten?
If so: Why?

LACK OF PRIVATE RIGHTS AND THE TRAGEDY OF THE COMMONS
How to solve the problem of marine conservation?

TERRESTRIAL VERSUS MARINE CONSERVATION & PRIVATE (COMMUNAL) ACTIONS IN CHILE

TERRESTRIAL & WET LANDS (1)

(Law 18.362, 1984: SNAPE)

CONSERVATION

32 National Parks (full conserv.)

15 National Monuments (full conserv.)

48 National Reserves (partial conserv.)

Total surface: 141.253 km² (ca. 19%)

CHILE FORESTRY ASSETS

Native forests: 156.000 km² (20,7%)

Deserts & semi: 240.947 km² (32,7%)

Prays, Shrubs: 199.684 km² (27,1%)

Mountain(other):143.684 km² (19,5%)

FULLY PRIVATE

Private Conservation: > 10.000 km² (*)

(Forest plantations: ca. 21.000 km²,
2,8% of the national territory)

MARINE (COASTAL) (2)

(More than 15 pieces of legislation!)

CONSERVATION

6 Mar.Protected Areas (759 km²)

6 Mar.Park & Reserves (63 km²)

8 Fully Research Areas (1,7 km²)

Total surface: 823 km² (ca. 2% coast)**

CHILE MARINE ASSETS

Fiords, Internal Seas, Channels,
Open coast, Embayments & Upwelling
Humboldt Current Systems

Artisanal Co-Management - MEABRs

Nº 538 (1016 km²)

Private Concessions (Aquaculture)

Nº. 2402 (197 km²)

(2) Fernández & Castilla (2005)

González, Fernández & Castilla (in preparation)

(**) Coast: 4270 km long x 9 km wide (straight line)

(1) Information from Web sources

(*) Personal calculation: over 1×10^6 hc (?)

CHILE: THERE ARE DIFFERENT TYPES OF LEGAL MARINE CONSERVATION-MANAGEMENT LEGAL TOOLS (Biol. Conserv.2005, (19):1752-1762)

ÁREA MARINA PROTEGIDA: AMP, UN ÁREA MARINA PROTEGIDA CON FINES DE CONSERVACIÓN (VER DEFINICION CHILENA DE CONSERVACIÓN)

FIGURAS LEGALES

- Ley Gral.Pesca & Acuicultura: PARQUE MARINO, RESERVA MARINA
- Convenios CPPS, CONAMA: ÁREAS MARINAS COSTERAS PROTEGIDAS:
(a) USOS MULTIPLES (ej. GEF), (b) USOS ESPECIFICOS.
- Subsecretaria de Marina: Parque Marino (Rapa-Nui)
- SSM, SSP, SERNAPESCA: Concesiones Marinas
 - * CONCESIONES DE ACUICULTURA (Acuicultura)
 - * AREAS DE MANEJO Y EXPLOTACION REC. BENTONICOS (AMERBS)
 - * CONCESIONES DE INVESTIGACIÓN (Conservación y Biodiversidad)
- Comisión Nacional de Borde Costero
- Ref. a "Bordes Costeros": Santuarios de la Naturaleza (DABM. Min. Ed.)
Monumentos Nacionales (DABM, Min. Ed)
Reservas Nacionales (CONAF. Min. Agric.)
Parques Nacionales (CONAF. Min. Agri.)

TERRESTRIAL AND MARINE CONSERVATION IN CHILE: A COST-BENEFIT APPROACH FROM THE RANGERS POINT OF VIEW

TERRESTRIAL & WET LANDS

1) N° of Rangers (Guardaparques, with training and tradition), **450**
(Web and Asmussen & Simonetti, 2007)

2) There are 141.253 km² of conservation areas: 1 Ranger per 311 km². **Very low!**

3) **Costs:**

a) Asmussen & Simonetti (2007):
US\$ 12.429.929 / yr

b) Castillas' own calculations based on 450 Rangers and full supporting backup:
US\$ 24.000.000 / yr

4) **Benefits (returns):** Asmussen & Simonetti (2007) US\$ 49.100.000

MARINE (COASTAL)

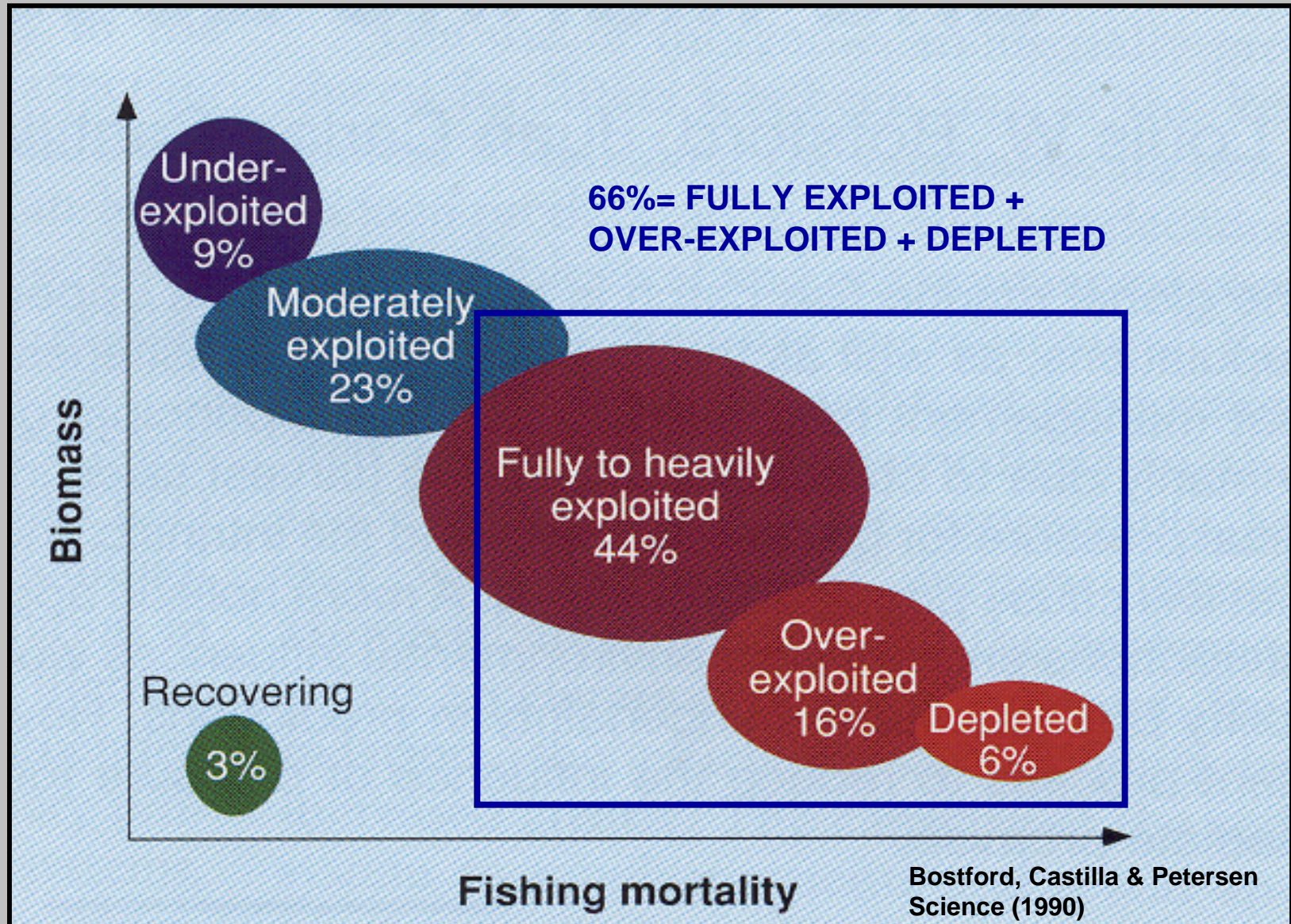
1) N° of "Rangers" (Unknown; no training no tradition), ca. **10** (personal inform. and SERNAPESCA)

2) There are 823 km² of conservation areas: 1 "Ranger" per 82 km²

3) **Costs:** Own calculation, approx.
US\$ 2- 3.000.000

4) **Benefits:** tourism etc (unknown)

Present situation regarding the overexploitation of marine resources in the world

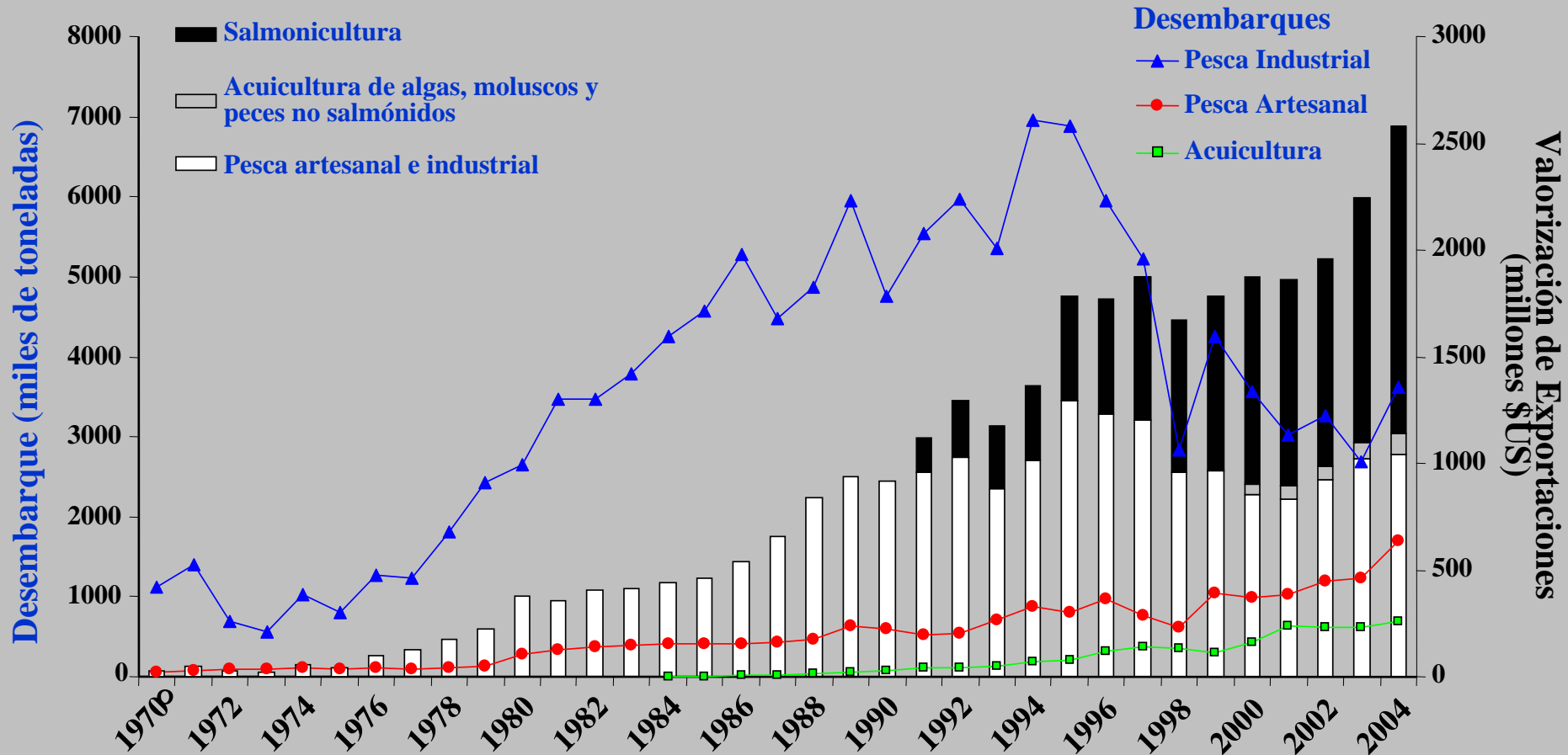


Chile

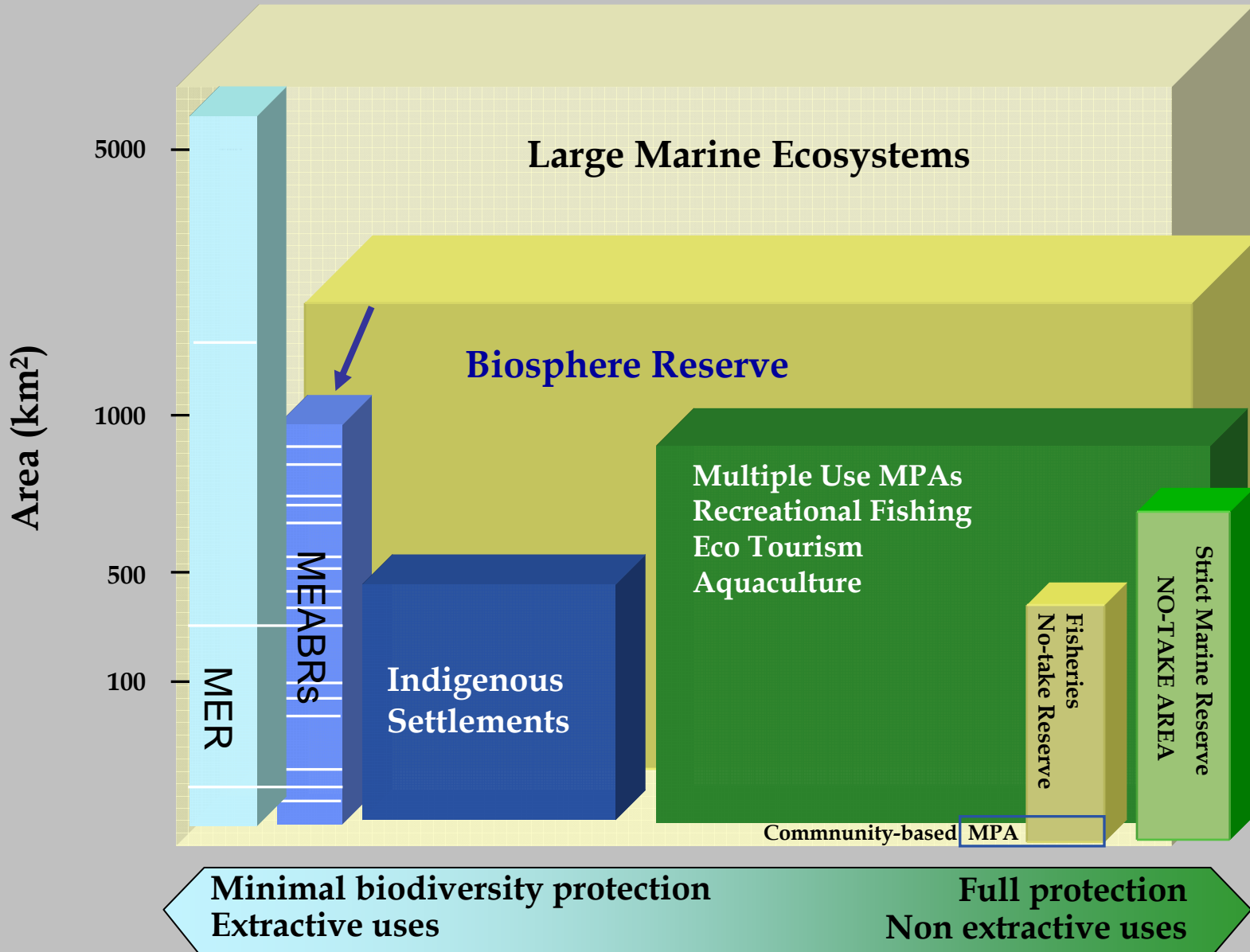
Pesquerías y Acuicultura

Desembarques y Valorización de Exportaciones

(Fuente: SERNAPESCA y Banco Central)



Conservation and Management Tools in the Marine Realm



LEY GENERAL DE PESCA Y ACUICULTURA

Artículo 48.- En la franja costera de cinco millas marinas a que se refiere el artículo anterior, como en las aguas terrestres e interiores, además de las facultades generales de administración de los recursos hidro-biológicos mencionados en el párrafo 1º del título II, podrán establecerse, por decreto supremo del Ministerio, previos informes técnicos de la Subsecretaría y del Consejo Zonal de Pesca respectivo, las siguientes medidas o prohibiciones¹²²⁻¹²³:

- a) Vedas extractivas por especie en un área determinada.
- b) Determinación de reservas marinas.
- c) Medidas para la instalación de colectores u otras formas de captación de semillas en bancos naturales de recursos hidro-biológicos, quedando igualmente prohibido efectuar actividades pesqueras extractivas en contravención a ellas.
- d) Un régimen denominado "Áreas de Manejo y Explotación de Recursos Bentónicos", al que podrán optar las organizaciones de pescadores artesanales legalmente constituidas¹²⁴.

¹²² Ley 19.079, Art.1º, N° 27.

¹²³ Ley 18.892, Art.30

¹²⁴ Ley 19.492 D.O. 03/02/97 modifica artículos 48 letra d), 67 y 144.

Tragedy of the commons: Chilean solutions in the sea

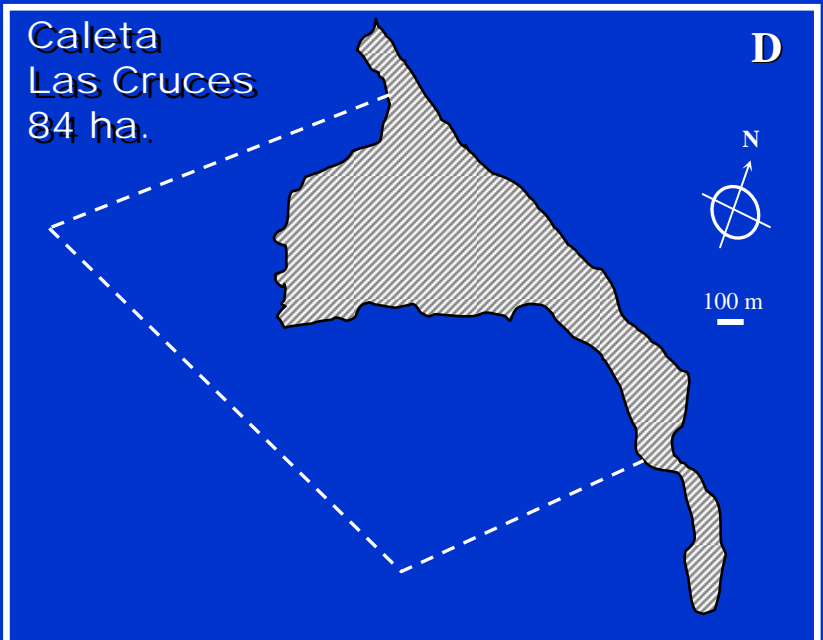
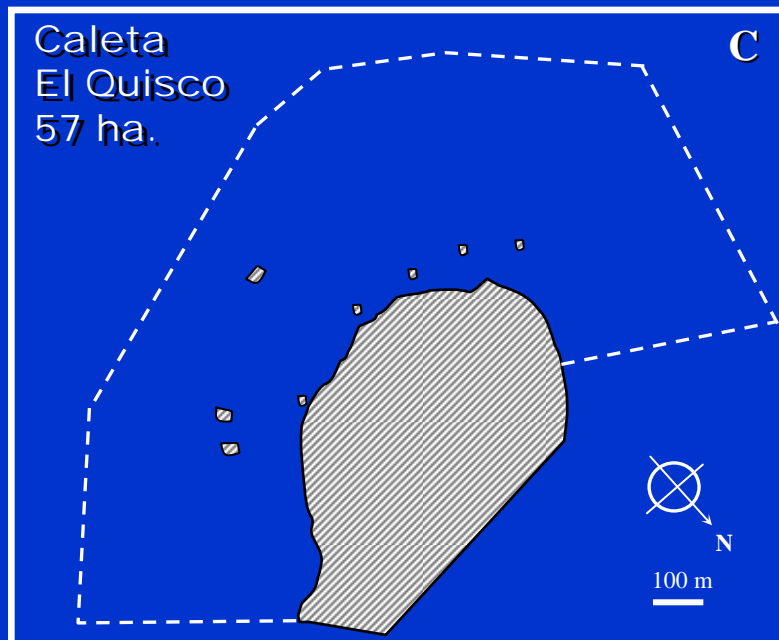
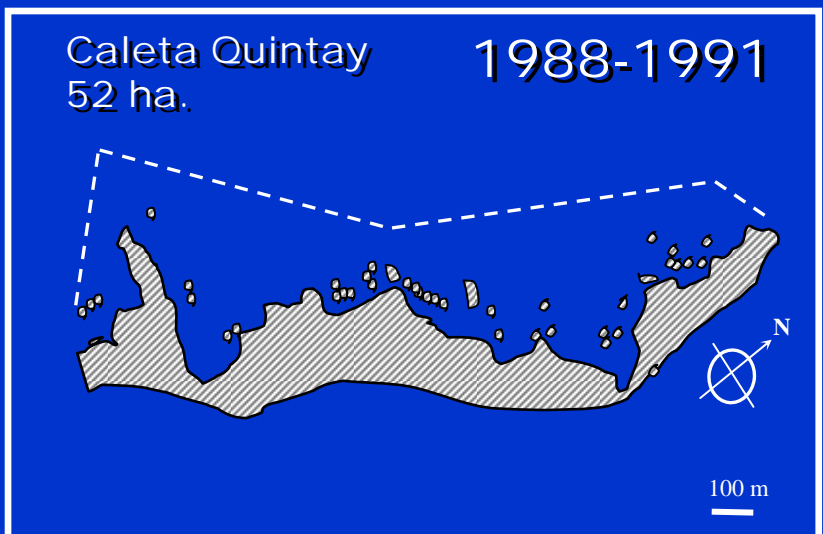
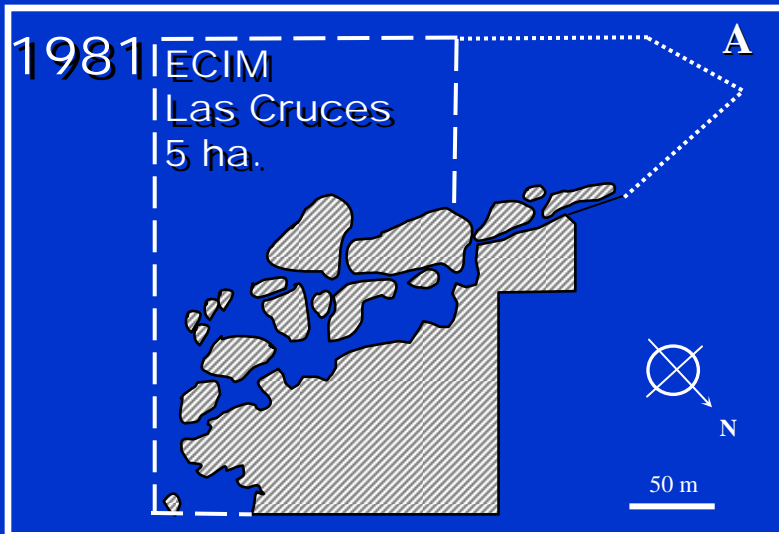


Coastal zone of 5 miles for the exclusive use of artisanal fisher fleets

**Management and Conservation
Tools: Species and area closures.
Marine Reserves**

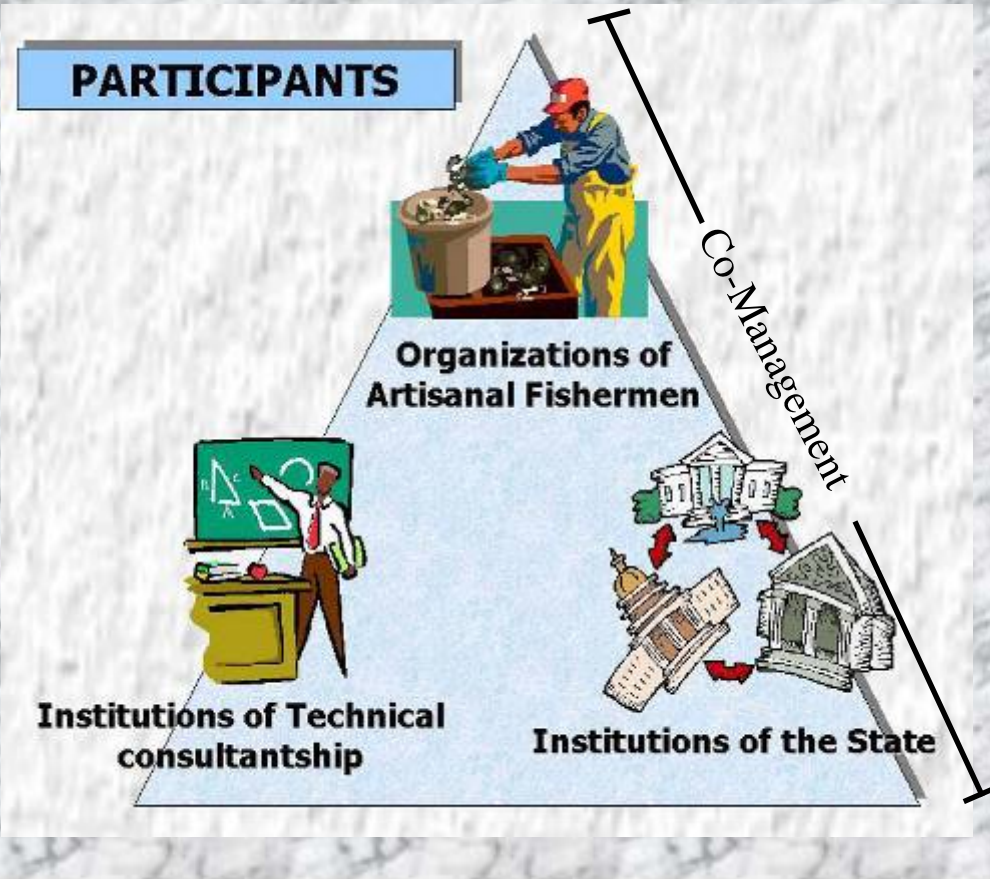
**Management and Exploitation
Areas for Benthic Resources
Regimen: MEABRs. Exclusive use
of small scale fisher associations
(Communal approach)**

Management and Exploitation Areas for Benthic Resources: Initial Models

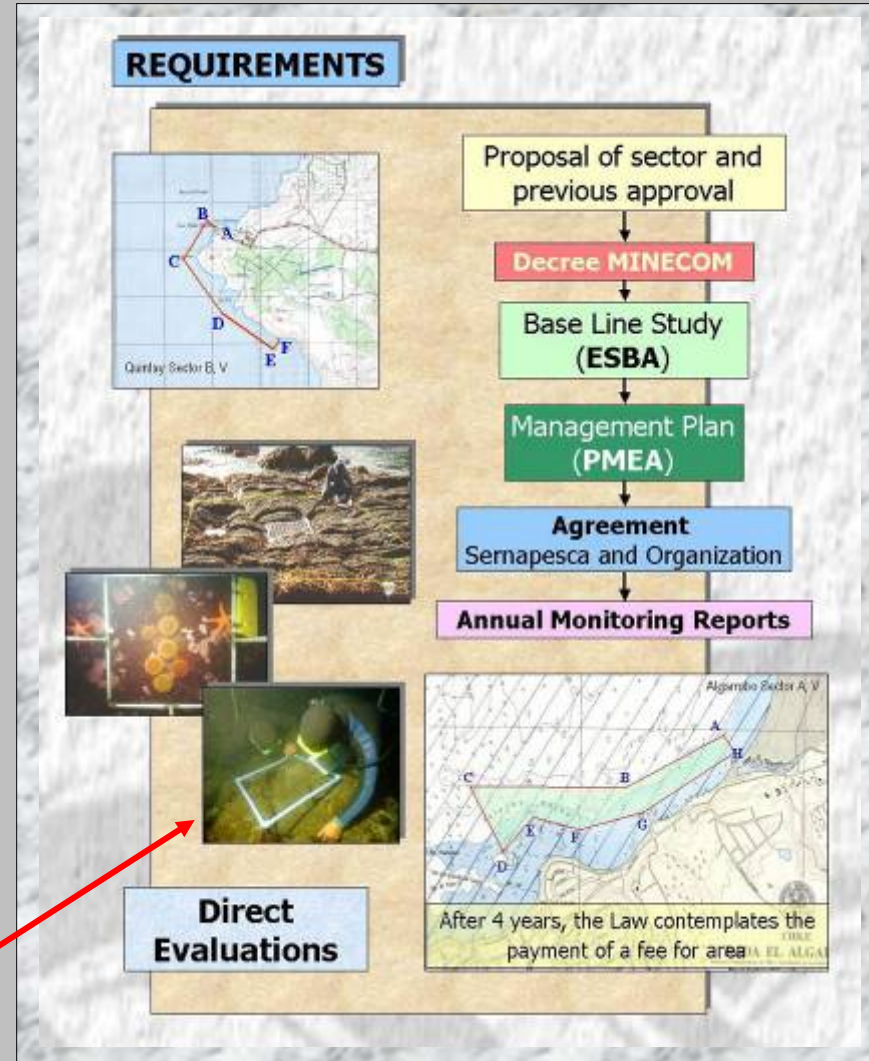


AMERBs participantes

MEABRs



- Communal Property Rights
- Base Line Studies
- Management Plans
- Resource Direct Evaluations
- Regulated Extractions

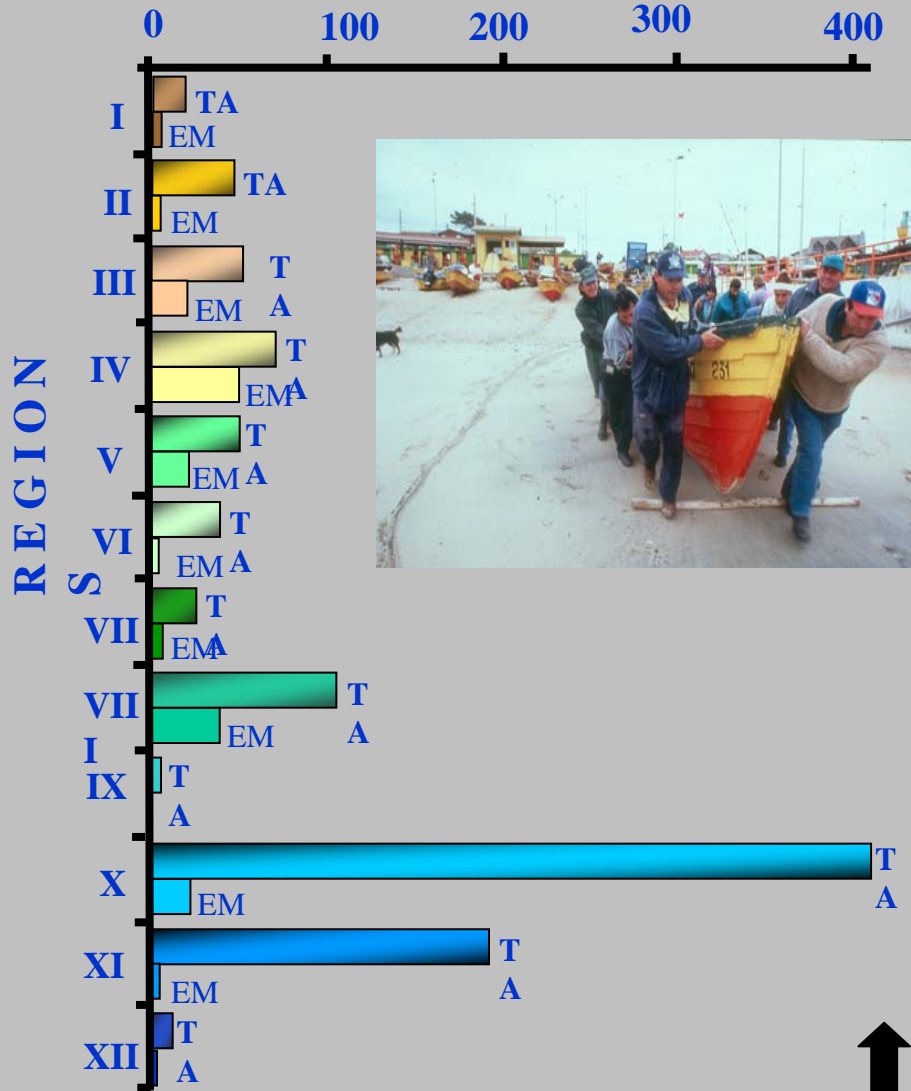


- Resorce Annual Evaluations
- Reports to Sub Secretaría de Pesca
- TAC Communal Quota
- Co- Management

El Quisco(2004): Communal Resource Evaluatios; Fishers & Professionals



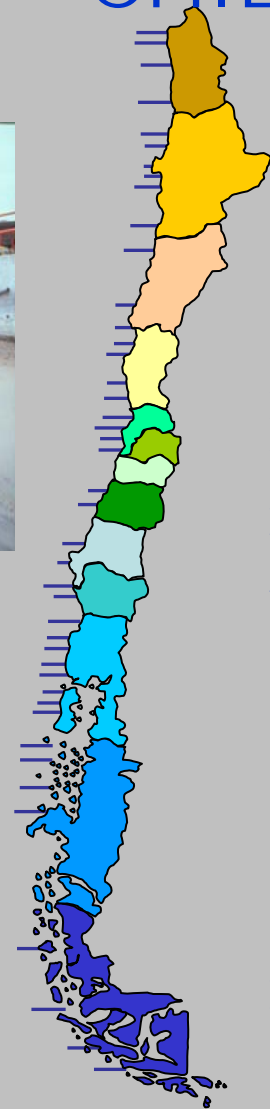
Number of MEABRs



TA : Total applications

EM: Exploited MEABRs (in oper 1 year or older)

CHILE



NUMBER of MEABRs
DECREED (2005)

547

IN FULL OPERATION
WITH
MANAGEMENT PLANS
APPROVED

307

Territorial User Rights for Fishers (TURFs) are allocated to communities with MEABRs.

AMERBs: principales especies manejadas en Chile



Loco: *Concholepas concholepas*



Lapas: *Fissurella costata*; *F. picta*; *F. maxima*; *F. latimarginata*; *F. cumingi*; *F. nigra*; *F. pulchra*



Erizo: *Loxechinus albus*



Pulpo: *Octopus mimus*



Algas: *Durvillea antarctica*, *Gracilaria* spp.



Piures: *Pyura chilensis*; *P. praeputialis*



Machas y Mitíldos: *Mesodesma donacium*, *Choromytilus chorus*, *Aulacomya ater*



Jaibas: *Homalaspis plana*; *Cancer setosus*

February 1998 SMALL-SCALE FISHERIES, CHILE S127

TABLE 1. Comparison of size and catch per unit of effort (CPUE) between Management and Exploitation Areas (MEA) and open-access diving areas for four benthic species of invertebrates exploited in Central Chile. Mean values, with 1 sd in parentheses, or ranges of mean values are provided.

Species	Management and Exploitation Area (MEA)		Open-access diving areas	
	Size (cm)	CPUE (no. individuals)	Size (cm)	CPUE (no. individuals)
Loco (<i>Concholepas concholepas</i>)	110–117 107–118	280–540* 91–186*	103–108	15–143
Sea urchin (<i>Loxechinus albus</i>)	102 (7.0) 97.1 (8.1)	380 (132)	78.8 (5.5) 87.6 (8.1)	65.33 (30.4)
Stone crab (<i>Homalaspis plana</i>)	111.7 (10.3)	36.0 (26.1)† 21.2 (12.2)‡	108 (10.9)	17–29† 17.4–22.7‡
Keyhole limpets	...	729 (44.4)	...	391.8 (129.6)
<i>Fissurella maxima</i>	110.3 (12.7)	...	83.2 (17.1)	...
<i>Fissurella latimarginata</i>	103.1 (9.4)	...	69.5 (11.3)	...
<i>Fissurella cumingi</i>	97.3 (8.9)	...	73.8 (11.4)	...

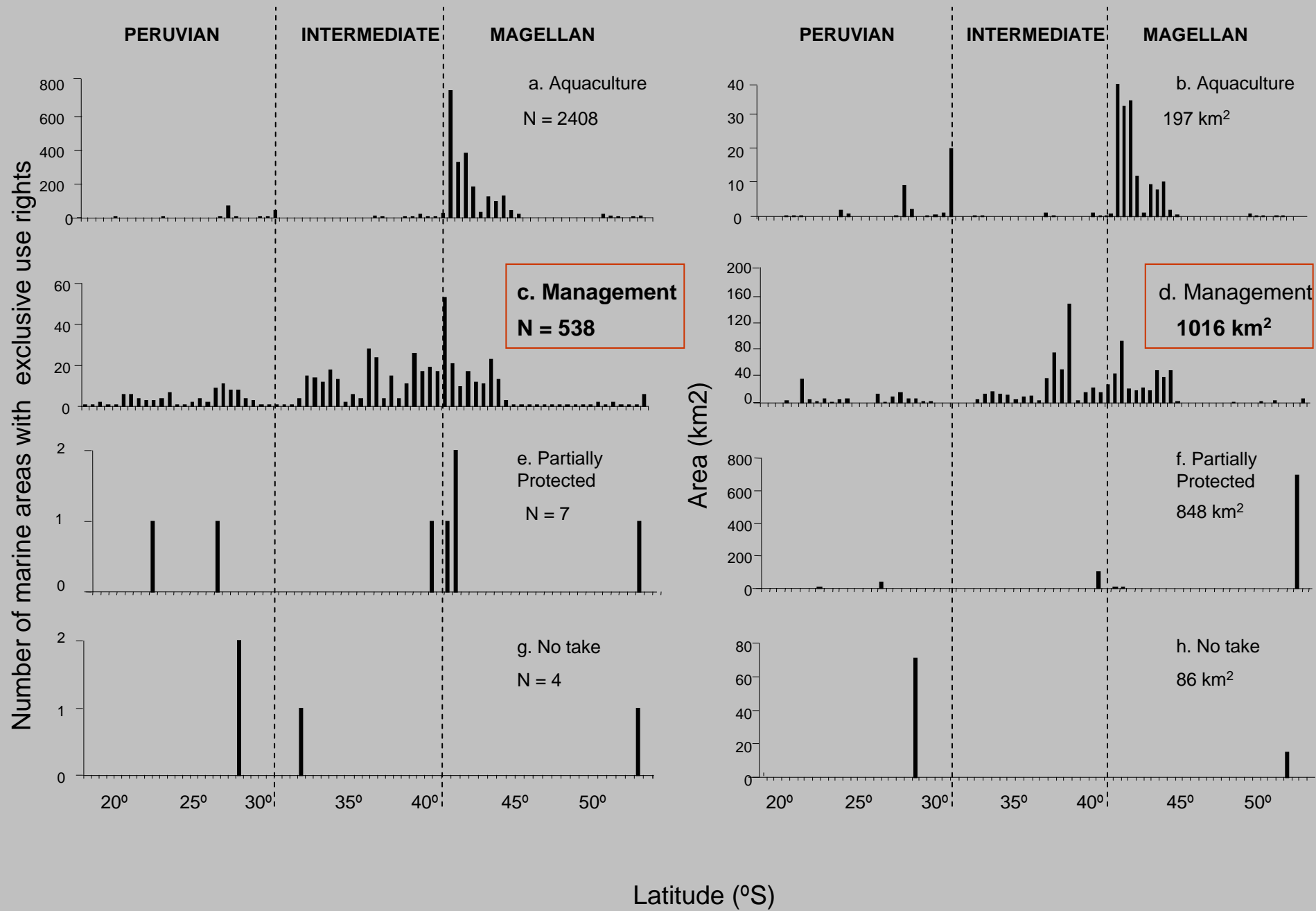


Figure 3
González et al

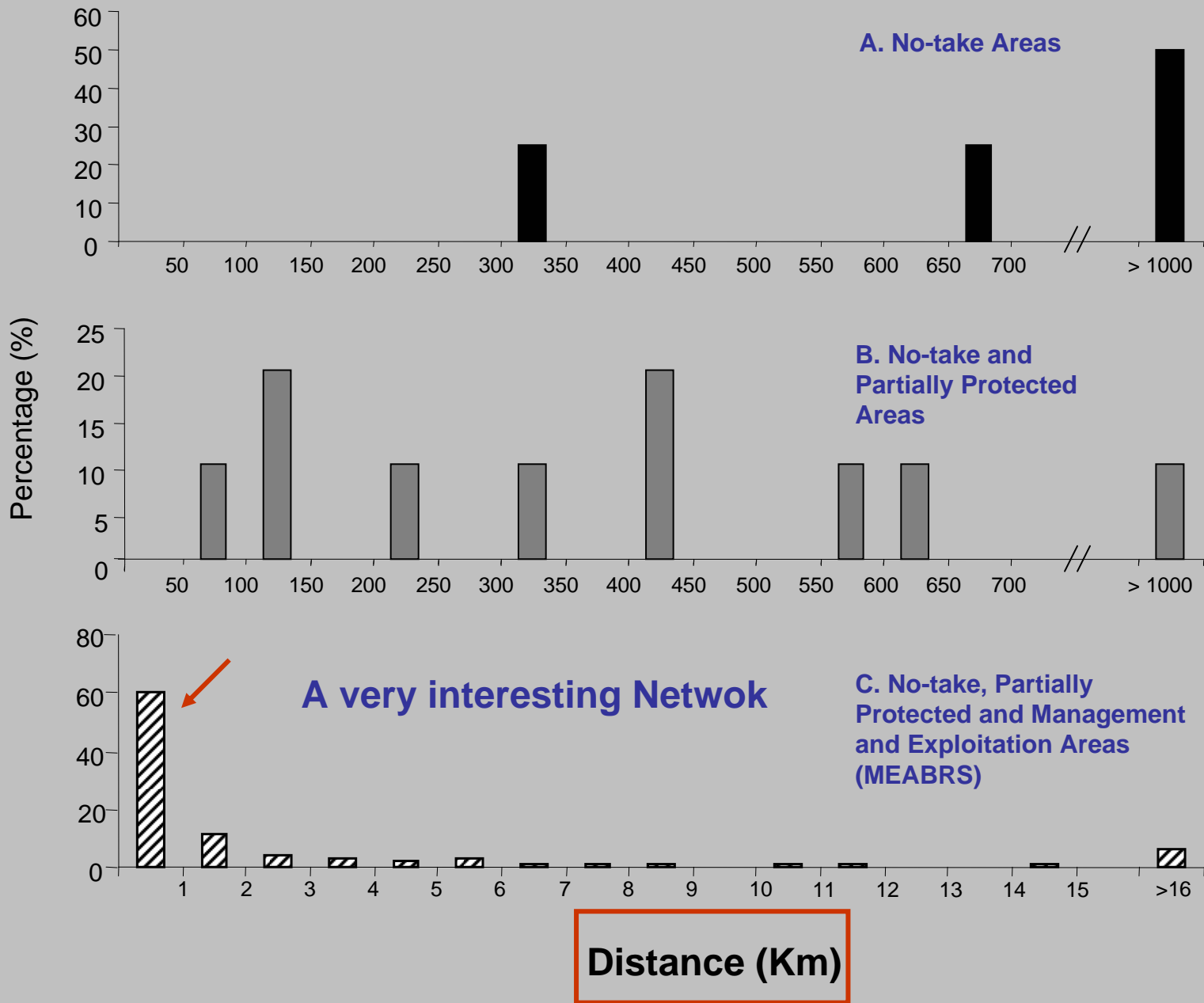


Figure 5
González et al

ADD-ON CONSERVATION BENEFITS OF MARINE TERRITORIAL USER RIGHTS FISHERY POLICIES IN CENTRAL CHILE

STEFAN GELCICH, NATALIO GODOY, LUIS PRADO, AND JUAN CARLOS CASTILLA¹

*Centro de Estudios Avanzados en Ecología y Biodiversidad, Facultad de Ciencias Biológicas,
Pontificia Universidad Católica de Chile, Casilla 114-D, Santiago, Chile*

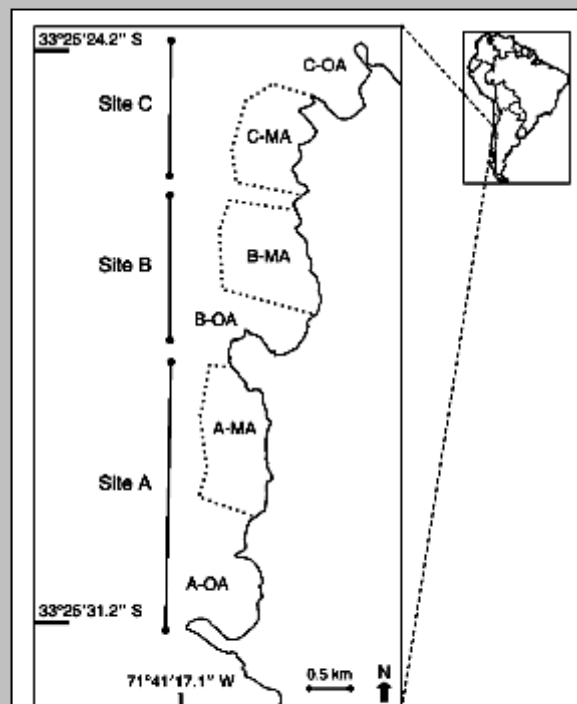


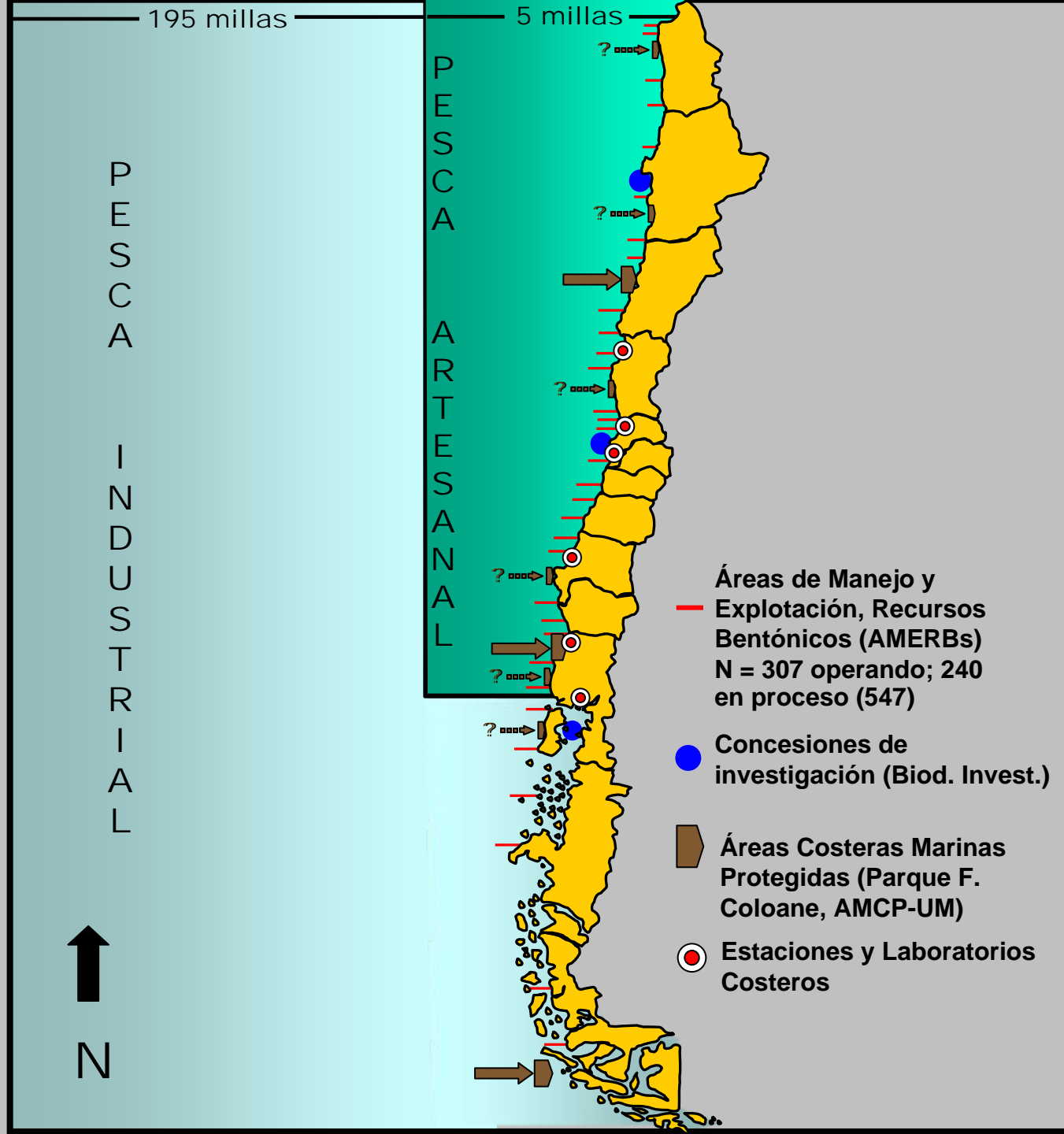
FIG. 1. Map of the study area in central Chile showing the location of the three sites A, B, and C. Management and exploitation areas for benthic resources (MEABRs), delimited by dotted lines, are MA-A, MA-B, and MA-C; open-access areas are A-OA, B-OA, and C-OA.

¿What do exist in Chile regarding Marine Conservation and Management?

There is a network of "non-planified" marine "protected areas"

Which with some centralized effort may be turned up on a unique world model, where Conservation and Sustainable Management will be part of an integrated system.

THIS IS THE CHALLENGE



CONCLUSIONS

1. Yes, Chilean Marine Systems, as compared to terrestrial ones, continue to be forgotten: It appears that in Chile we are continuing to give the back to the Pacific
2. In spite of that, original advanced scientific research in the country shows unique and internationally attractive possibilities for rational conservation and management of coastal systems. We had done it with very little help from the State
3. We can not wait more to implement and carry on a national comprehensive policy in this regards.....
is getting later!: Overfishing, Mismanagement and the Global Climatic Change are catching up

Thank you for the invitation