

Large Marine Ecosystems of the World and Linked Watersheds

WHAT CAN LMEs
TEACH US ABOUT
SMEs?



A FEW BRIEF LESSONS FROM
ECOSYSTEM THINKING TO BIOTOPE
THINKING

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|--------------------------------------|--------------------------|----------------------------|-----------------------------------|-----------------------|-------------------|
| 1. East Bering Sea | 13. Humboldt Current | 25. Iberian Coastal | 37. Sikhotealin Sea | 48. Yellow Sea | 60. Faroe Plateau |
| 2. California Current | 14. Sagami Sea | 26. Mediterranean | 38. Intra-Americas | 49. Kuroshio Current | 61. Antarctic |
| 3. California Current | 15. South Brazil Shelf | 27. Canary Current | 39. North Australian Shelf | 50. Sea of Japan | 62. Black Sea |
| 4. Gulf of Mexico | 16. Congo Current | 28. Benguela Current | 40. West African Shelf | 51. Oyashio Current | 63. Hudson Bay |
| 5. Southwest U.S. Continental Shelf | 17. West Greenland Shelf | 29. Agulhas Current | 41. East-Central Australian Shelf | 52. Khosk Sea | 64. Arctic Ocean |
| 6. Southwest U.S. Continental Shelf | 18. West Greenland Shelf | 30. Agulhas Current | 42. Southeast Australian Shelf | 53. West Bering Sea | |
| 7. Gulf of Mexico | 19. East Greenland Shelf | 31. Somali Coastal Current | 43. Southwest Australian Shelf | 54. Chukchi Sea | |
| 8. Gulf of Mexico | 20. Barents Sea | 32. Arabian Sea | 44. West-Central Australian Shelf | 55. Beaufort Sea | |
| 9. Newfoundland-Labrador Shelf | 21. Norwegian Shelf | 33. Red Sea | 45. Northwest Australian Shelf | 56. East Siberian Sea | |
| 10. Insular Pacific-Hawaiian | 22. North Sea | 34. Bay of Bengal | 46. New Zealand Shelf | 57. Laptev Sea | |
| 11. Pacific Central-American Coastal | 23. Baltic Sea | 35. Gulf of Thailand | 47. East China Sea | 58. Kara Sea | |
| 12. Caribbean Sea | 24. Celtic-Biscay Shelf | 36. South China Sea | | 59. Iceland Shelf | |

Biotores (habitats) and landscapes

- Important for management in Sweden/Europe
 - Natura 2000
 - Biotope protection
 - Typical focus of management plans for protected areas
 - Essential fish habitats
 - Hot area for research
- But isn't well functioning ecosystems what we really are after...? At least that's the trend.

LESSON: STRUCTURES AND FUNCTIONS

- LMEs – strong focus on ecological functions/relationships
- Habitats/landscapes – currently very structural ... needs more attentions to functions
- Functions within habitats, but also among..

LESSON: CLASSIFICATION

- LME classification based on bathymetry, hydrography, productivity, and trophically- related populations
- Biotope/landscape classification commonly based on physical features , but..
 - Biological classes are added
 - Hierarchical systems important for biotopes/landscapes

LESSON: assessment & indicators

- LME: 5-module assessment include ecosystem productivity, fish and fisheries, pollution and ecosystem health, socioeconomics, and governance
- Biotopes/landscapes: assessment and indicators under development (Natura 2000), but very much directed towards biotope structure and (to a lesser degree) function
- The Marine directive...?

LESSON: MANAGEMENT

- LME concept is management-oriented
- Biotopes/landscape more biology/ conservation
- Evaluation of goods and services and other management issues under development.

Most important in my view

- LMEs: the whole kit, the parts form a management system
- Biotopes/landscapes: some parts are in place, others need development, in particular functional and socioeconomic aspects.