

## Nationwide Comparative Analysis of State-level Marine Cadastre Data

The Nature Conservancy, March 1, 2010

**Project Background:** The [U.S. Multipurpose Marine Cadastre](#) (MMC) is a powerful tool that can support marine spatial planning and is now available on the Web. Developed under the leadership of NOAA and the U.S. Minerals Management Service, the MMC "...is an integrated information system that provides legal, physical, ecological, and cultural information in a common geographic information system framework" ([The Multipurpose Marine Cadastre Fact Sheet](#)). The core of the MMC is the official U.S. marine cadastre, which depicts the spatial extent of jurisdictions, rights, restrictions, and responsibilities in U.S. waters.

The MMC is intended to cover the entirety of the U.S. Exclusive Economic Zone (EEZ), but currently excludes state waters. Ultimately, if the U.S. is going to effectively implement [marine spatial planning](#), marine cadastral data will be needed across federal and state boundaries. Development of compatible data systems for state and federal waters will provide opportunities to depict not only the spatial extent of public regulations and jurisdictions, but property interests, values and authorized uses in a common framework.

One useful component of a common framework is a standardized grid system within which spatial data can be populated and analyzed. OCS lease blocks, the grid system currently used in federal waters, provide an example of how such a grid system could be created for state waters—in this case, by subdividing the OCS lease blocks into smaller and smaller units to enable the use of finer scale data which states often have (see figures 1 and 2). The Minerals Management Service, however, only extends the grid system into state waters upon request by states.

**Figure 1: Subdivisions of the OCS Grid Block System** (courtesy [Lee Thormahlen 2004](#))

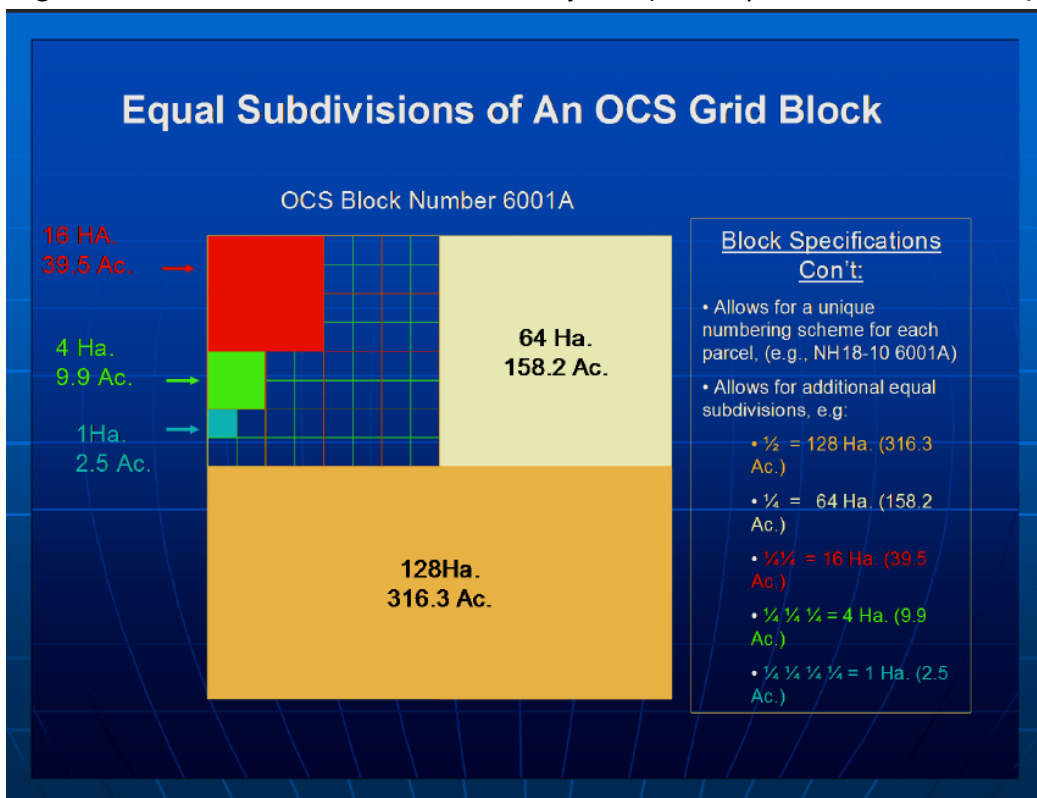
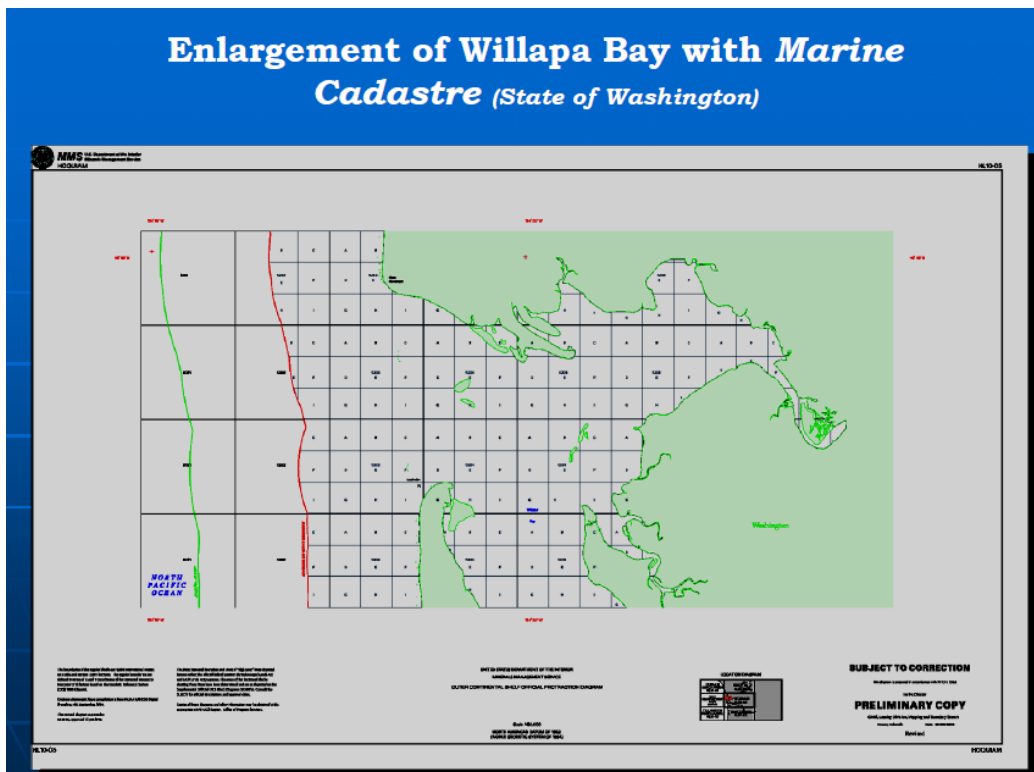


Figure 2: Extension of the OCS Grid Block System into State Waters (courtesy [Lee Thormahlen 2004](#))



**Project Description:** In 2007, TNC worked with NOAA-CSC on a project that evaluated the status of spatial data relating to ownership and leasing in state waters in Massachusetts and Oregon. A product from that effort was the [Marine Land Ownership and Leasing Spatial Database Template](#). This template allows for a standardized comparison of the progress states have made in developing marine cadastre data (for example, see figure 3).

Under the current project, TNC will examine efforts to develop and share cadastre data for marine spatial planning and identify agencies and states in the forefront of these efforts. TNC will then apply lessons learned to date to revise and improve the spatial database template, including an assessment of the advantages and challenges of using a grid system, such as OCS grid blocks, in state waters. The revised template will be designed to provide guidance to states in further data development and integration efforts. Within the project, the template will be used to undertake a nationwide comparative analysis of state-level marine cadastre data. TNC will determine the current status of each state's data, as well as identify which states are most prepared to integrate their spatial data into a framework that is compatible with the U.S. Multipurpose Marine Cadastre. A potential next step, if funding becomes available, is to engage at least two of the most prepared states in pilot efforts to develop a federal-state integrated marine cadastre framework.

The revised Marine Land Ownership and Leasing Spatial Database Template, the comparative analysis of state marine cadastre data, and other project findings will be shared widely through TNC and partner web sites, and will be used to update information in the State Maps section of the [Marine Conservation Agreement Toolkit](#).

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**Figure 3: State-to-state Comparison of Spatial Data Status** (courtesy [Josh Murphy 2006](#))

Step	Products	Massachusetts			Oregon		
		Expected	Completed	Remaining	Expected	Completed	Remaining
1	• Project Goal	• 1%	• 1%	• 0%	• 1%	• 1%	• 0%
	• Project Proposal	• 1%	• 1%	• 0%	• 1%	• 1%	• 0%
2	• Documents Which Reveal State Submerged Lands Leasing, Licensing and Ownership	• 10%	• 8%	• 2%	• 10%	• 5%	• 5%
	• Data Capture Plan	• 2%	• 2%	• 0%	• 2%	• 0%	• 2%
3	• Existing Spatial Data Inventory	• 5%	• 4%	• 1%	• 15%	• 5%	• 10%
	• Spatial Data Which Delineates Submerged Lands Leasing, Licensing, and Ownership	• 5%	• 3%	• 2%	• 15%	• 4%	• 11%
4	• Data Model	• 10%	• 8%	• 2%	• 10%	• 5%	• 5%
	• Organizational Framework	• 5%	• 0%	• 5%	• 5%	• 0%	• 5%
5	• Spatial Data Which Delineates Submerged Lands Leasing, Licensing, and Ownership	• 50%	• 0%	• 30%	• 40%	• 2%	• 38%
6	• FGDC-compliant metadata	• 5%	• 0%	• 10%	• 5%	• 0%	• 10%
	• Documented QA/QC procedures and reports on positional, attribute accuracy	• 2%	• 0%	• 2%	• 2%	• 0%	• 2%
7	• Data access plan	• 4%	• 0%	• 5%	• 4%	• 0%	• 5%
<b>TOTAL</b>		<b>100%</b>	<b>27%</b>	<b>73%</b>	<b>100%</b>	<b>23%</b>	<b>77%</b>

### For more information, contact:

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