Nearshore Ecological Data Atlas: Preliminary list of data gaps

3/1/2012

Category	Topics of Interest	Additional info
Ecosystem		
	Retention zones (as they relate to larval supply and food advection)	
	Source/sink population areas (ie larval dispersal patterns as a function of species, depth, geographic location, spawning season, larval behavior, etc)	
	Ocean fronts (nearshore)	*This information is available outside the Territorial Sea, but would require further analysis to be useful in marine spatial planning*
	Classification and mapping of oceanographic habitats	
	Survey, classification, and mapping of benthic habitats > 10 m depth in areas not yet surveyed with high resolution sonar	
	Survey, classification, and mapping of benthic habitats < 10 m depth thought to be rocky, i.e. "the white zone"	
	Detailed classification and mapping of rock habitat	*refine rock habitat classification into component classes (e.g., high relief, sand-scoured areas, boulder, etc.) and map at finer spatial scale*
	Benthic habitat temporal variability (e.g., low-relief rock, ripple scour depressions)	
	Alternate classification of upwelling areas (e.g., areas with more frequent alternating upwelling and relaxation events)	
	Benthic species-habitat associations (to extrapolate biological sampling up to the scale of remote sensing data)	
	Biologically-justified classification of soft sediment habitat	
	Epibenthic and infaunal invertebrate community distribution and abundance	
	Spatio-temporal "persistence" (i.e. "Hotspots) and "importance" (similar to PRBO modeling for seabirds) for various taxonomic groups	
	More complete work on spatial representation of estuary-ocean linkages (including definition of estuary transition zone in nearshore ocean)	*e.g., how to realistically attribute estuary "importance" to the nearshore ocean environment; can improvements be made to our method?*
	Migration corridors to and from estuaries (e.g., crab, salmon)	
	Habitats/areas important to ecosystem functions - larval sources/sinks, areas of high recruitment success, others	
Fish		
	Small nearshore fish species abundance and distribution	*herring & smelt - these species might be important in development siting*
	Pelagic & forage fish species abundance and distribution	
	North-South migration corridors (e.g., Green sturgeon, white shark, salmonids)	
	Corridors for rock-associating species that move between reef areas [e.g., canary, black rockfish])	
	Ontogenetic migration corridors (e.g., rockfish, lingcod, flatfish)	
	Movement patterns for species that make seasonal movements	
	Nearshore nursery habitat for juvenile fishes	
	Nearshore recruitment habitat for juvenile fishes	
	Ability to differentiate habitat in terms of fish production	
	Fish-habitat relationships in soft sediments	
	Other modeling exercises with existing fish survey data	*ratio between count & weight as indicator of nursery area*
	General winter distributions for most species	

Seabird		
	Loon migration data	*would serve as an example of a bird species that uses consistent migratory paths. Might be able to entice the Yaquina Bay Birders to provide counts & information on this*
	General routes for migratory species	*routes, timing, species behavior during migration*
	Winter seabird distribution and abundance data	*PRBO did model winter distribution and abundance, but data were sparse and were done off of large vessels offshore*
	PRBO-type seabird abundance and distribution modeling for nearshore areas (use Craig Strong's data?)	
	Brown pelican roosting habitat identification	
	Outer territorial sea bird surveys for areas south of Cape Arago (expansion of Craig Strong's surveys)	
	Feeding areas for colonial nesters	
Marine Mammals		
	Winter distributions of most species	*habitat for nearshore mammals (eg sea lions, harbor seals, harbor porpoise) may be limiting during the winter and therefore disproportionately important*
	Harbor porpoise surveys (beyond the Craig Strong area)	*I believe Jeff Laake has these data but just needs to work it up*
	Pinniped feeding areas	*may be able to use EBASCO data for this*
	Refined spatial map of gray whale corridor, and spatial/temporal variation in the corridor.	*Synthesize gray whale migration literature (different results depending on land-based or aerial surveys)*
	Better data/modeling of cetacean use of nearshore	
	Orca use of Oregon Waters (especially populations of concern, e.g., endangered southern resident pods)	
Other		
	Refined distribution map of leatherback sea turtles (and other species)	*more refined than map of ESA critical habitat*