

Table 1A. ECOSYSTEM COMPONENT: SPECIES AND FOOD WEBS

	<i>Species and food web attributes</i>	<i>Status Examples</i>
MARINE AND ESTUARINE	Toothed whales	Orcas, Dall's porpoises number and trend in SROrcas
	Baleen whales	Grey, minke, and humpback whales
	Other marine mammals	Steller sea lions, harbor seals, river and sea otters
	Birds - higher trophic levels	Comorants, alcids, grebes, eagles, ospreys, terns, herons, kingfishers, loons seabird colonies--17 spp (prop colonies A status) shorebird colonies (prop A status) prop species with major increasing (decreasing) trends (assume 40 spp censused)
	Birds - lower trophic levels	Gulls, shorebirds, ducks (including scoters), brandt, geese species with increasing, decreasing trends
	Pelagic fishes - higher trophic	Chinook, coho, dogfish, Pacific cod, Pacific hake ground fish stock status (depressed, etc.) chinook, coho salmon status bull trout, cutthroat status
	Pelagic fishes - lower trophic levels	Pacific herring, smelt, sandlance, pollock, squids squid landings from PS 1990-2002 surfsmelt annual catch 1995-2002 herring spawning biomass and trends chum, pink salmon status
	Demersal fishes - higher trophic	Rockfish, lingcod, flatfish, sculpin ground fish stock status (depressed, etc.)
	Demersal fishes - lower trophic	Rockfish, flatfish sculpin, ratfish, embiotocids, skates, rays
	Mobile invertebrates - predators and grazers	Dungeness crab, shrimp, echinoderms (seastars), gastropods, holothurians (sea cucumbers), octopods, abalone, small epibenthics, some polychaetes pounds Dungeness crab landed
	Sessile invertebrates - filter, deposit, and suspension feeders	Bivalves, encrusting (barnacles, sponges, Metridium anemones, tunicates), sea pens/whips, some polychaetes intertidal species richness (number of spp) subtidal invert abundance for major groups pinto abalone abundance, trend
	Zooplankton	Holoplankton - including copepods, chaetognaths, euphausiid (krill), gelatinous (jellies, ctenophores); meroplankton - including fish/crab/shrimp/etc. larvae
	Phytoplankton / microplankton	Diatoms, dinoflagellates, bacteria annual number of phytoplankton blooms/month avg over 5 years
	Vascular plants	Eelgrass, salt marshes, surfgrass eelgrass area by fringe, flat trend in eelgrass area
	Benthic algae	Canopy-forming kelp, understory kelp, other red green and brown macroalgae, micro algae, area or linear extent of canopy kelps area or linear extent of understory kelps

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	<i>Species and food web attributes</i>	<i>Status Examples</i>	
FRESHWATER	Fishes - higher trophic levels	Resident salmonids bull trout, cutthroat status	
	Fishes - lower trophic levels	Juvenile anadromous salmonids, lamprey FW fish	
	Zooplankton	Daphnia	
	Algae	Periphyton	
	Invertebrates - macro	EPT taxa, molluscs FW invertebrates	
	Invertebrates - micro	Bacteria, protozoa	
	Amphibians	Cascade frog, western toad, yellow-legged frog FW amphibians	
	Vascular plants	Elodea FW plants	
	Mammals - higher trophic levels	Human, bear	
	Mammals - lower trophic levels	Beaver, elk	
	Birds	Bald eagle, spotted owl FW birds number of bald eagle nests per action area	
	Reptiles	Northwestern gartersnake FW reptiles	
	TERRESTRIAL	Invertebrates - macro	Arthropods, molluscs
		Invertebrates - micro	Bacteria, protozoa
		Vascular plants - overstory	Mature evergreen trees
		Vascular plants - understory	Saplings, shrubs, shade-loving woody spp.
Vascular plants - ground layer		Herbaceous species, dwarf shrubs	
Non-vascular plants		Lichens, mosses	
Fungi		Morchella (morels), Armillaria (white rot)	
INDICES	Predator-prey ratios		
	Scavenger-predator ratios		
	Herbivore-predator ratios		
	Average trophic level		
	Body size distributions		
	Species richness		
	FW irreplaceability		
	Conservation utility		
	Total FW status		

Table 1B: ECOSYSTEM COMPONENT: WATER QUALITY

	<i>Water Quality Attributes</i>	<i>Water Quality Status Examples</i>
MARINE	Toxics	
		results from WADOE
		sediment contamination (high-degraded quality of triad)
		impaired marine sediment sites per aa
		PBDE conc in aas
		trend in PAH conc in sediments
		metals in sediments--changes and trends
	Toxins	PSP impact category (none-->high)
		PSP impact index (1-->3)
		trends in PSP 2001-2005
	Nutrients and Pathogens	
		DO 303d listings 58 locations (p.237)
		DIN and NH4 low--high
		FW phosphorous inputs (poor-->good)
		index of eutrophication sensitivity (v high-->low)
	enterococcus exceedences (#)	
Fine sediment		
Dissolved oxygen		
	DO very low-->high avg for 2001-2005	
Integrated water qual assessment		
	water quality concern areas (highest-lowest)	
FRESH-WATER	Toxics	
	Toxins	
	Nutrients and Pathogens	DO 303d listings 58 locations (p.237)
	Fine sediment	
	Integrated water qual assessment	

Table 1C: ECOSYSTEM COMPONENT: WATER QUANTITY

<i>Water Quantity Attributes</i>	<i>Water Quantity Status Examples</i>
Surface flows	mean annual FW flows
	mean annual low flows
	mean annual peak flows
	mean annual low flows
	timing of peaks, low flows
	trends in above
Groundwater flows	

Table 1D: ECOSYSTEM COMPONENT: HABITATS AND HABITAT-FORMING PROCESSES

<i>Habitat Attributes</i>	<i>Habitat Status Examples</i>
Terrestrial Habitat Attribute	
Lowlands	Early Seral Forest
	Mid-late Seral Forest
	Cliffs and Bluffs
	Prairie/Grassland
	Coastal Headlands/Bluffs
	Rural
	Urban
Montane	Early Seral Forest Cover
	Mid-late Seral Forest Cover
	Shrubland
	Subalpine and Alpine Meadows
	Snowpack and Ice
	Talus and Scree
Aquatic/Riparian Zone	Lakes and Ponds
	Intact Rivers and Trib Channel Structures
	Intact banks and shorelines
	Connected Floodplain
	Riparian Forest
	Backwaters and Beaver Ponds
	Wetlands
Marine Habitat Attribute	
Processes	Sediment Transport/Deposition
	Beach Formation Processes
	Erosion
	Circulation/Mixing/Upwelling
	Nutrient Transport
	Stratification
	Light Penetration/Turbidity
Pelagic	Rocky Benthic
	Soft Benthic
	Kelp Beds
	Canyons
	Sills
	Surface Water
	Deep Water
Nearshore physical characteristics	rocky coasts
	beaches
	embayments
	river deltas
Nearshore vegetation	eelgrass
	tidal marsh vegetation
	kelp

Table 1E: ECOSYSTEM COMPONENT: HUMAN HEALTH

<i>Human Health Attributes</i>	<i>Human Health Status Examples</i>
<i>Contaminants in things people eat</i>	PCBs in chinook salmon
	PCBs in foods, fish from PS
	avg PCB conc in coho salmon fillets in few sites
	PBDE conc in fish in selected bays
	PCB conc in rockfish in selected bays
	PCBs in mussels in 1 site/aa
	PAH in mussels in few sites
	metals in mussels from a few sites
<i>Nutrients and pathogens in things people eat</i>	fecal coliform in shellfish beds (fair-->bad impairment)
	index of fecal coliform pollution in shellfish beds & trend
	fecal coliform in shellfish beds (upgrade or downgrade)
	shellfish bed classifications (approved-->prohibited)
	commercial growing area classifications (approved -->prohibited)
	fecal coliform 303d listings (76 sites)
	FW fecal coliform (poor-->good)
	marine fecal coliform counts (high-->low)
<i>Toxins in things people eat</i>	PSP impact category (none-->high)
	PSP impact index (1-->3)
	trends in PSP 2001-2005

Table 1F: ECOSYSTEM COMPONENT: HUMAN SOCIO-ECONOMIC AND CULTURAL WELL-BEING

TABLE IS A WORK IN PROGRESS

<i>Human Well-Being Attributes</i>	<i>Human Well-Being Status Examples</i>
Recreational and commercial harvest	Trends in geoduck landings, tribal commercial, cultural and subsistence uses; non-tribal harvest, groundfish, shellfish land number of fishing trips, ex-vessel values, shellfish aquaculture revenues, hunting, shellfish bed closures
Recreation and wildlife viewing	Watchable Wildlife, Beach walkers (low tide enthusiasts), Swimming closures (fresh or salt), acres of public parks, kayak river rafting, hiking
Livelihoods that are natural-resource based extractions on land	Revenue from agriculture, logging; number and average size farms per region
Transportation	Commute choices, travel time, ferry ridership
Affordable housing	
Flood control	
Storm and shoreline erosion protection	