GOLDEN BAY ESTUARIES ECOSYSTEM
NATIVE PLANT RESTORATION LIST

Locality:	The high tide fringes of a series of intertidal areas regularly spaced between Pohara and Collingwood most of which are associated with river mouths and inlets. From east to west these include, Motupipi Inlet, Waitapu-Takaka River mouth and delta system, Onahau, Pariwhakaoho and Otere River mouths, Aorere River mouth and delta system, and Parapara, Ruataniwha, Waikato, Pakawau and Puponga Inlets.
Topography:	Tidal flats, low relief islets, deltas and margins of coastal terraces around mean high tide. Usually part of an inlet enclosed by a coastal spit or barrier beach and fed by a river.
Soils and Geology:	Sandy or peaty mud and organic matter from river deposits and estuarine vegetation. Pebbles and cobbles either sub-surface or scattered over substrate. Highly saline, infertile and anaerobic with iron and sulphur staining. High-shore flats have greater amounts of cobbles, pebbles and rafted organic matter and are also drought-prone in summer.
Climate:	High to moderately high sunshine hours; frosts mild; mild annual temperatures. Rainfall 1600mm in the east to 2200mm in the west.
Coastal influence:	Entirely coastal. Tidal and saline influences of seawater are profound and are the most dominant influences on the ecosystem. Lower estuarine zone inundated by seawater on all but neap tides. High-shore flats of the upper estuarine zone inundated only on spring tides. Salt water may wedge up watercourses for many metres creating a brackish wetland environment around river mouths.
Original Vegetation:	Salt marsh shrublands, rushlands, sedgelands and succulent herbfields. Brackish sedge and reed wetlands. These would have typically graded inland and upslope into tall coastal forest.
Human Modification	Lower intertidal vegetation still largely intact. Significant reclamation around inlet and delta margins which has destroyed estuarine shrubland habitat, truncated estuarine zonation patterns and altered hydrologies and coastal processes. Very few natural areas remain where estuary vegetation grades into native freshwater and terrestrial vegetation.

[Refer to the Ecosystem Restoration map showing the colour-coded area covered by this list.]

KEY

PLANTING RATIO	PLANT PREFERENCES	TYPE OF FOOD PROVIDED FOR BIRDS AND LIZARDS
Early Stage plants are able to establish in open sites and can act as a nursery for later stage plants by providing initial cover. **Later Stage** plants need cover to establish. **2** = plant commonly **1** = plant less commonly **0** = not suitable to plant at this stage	**Wet, Moist, Dry, Sun, Shade, Frost, Saline** **1** = prefers or tolerates **½** = prefers or tolerates some **0** = intolerant of **Plant in habitat type**: **U** = best suited to upper estuarine zone **L** = best suited to lower estuarine zone **B** = best suited to brackish wetland	**F** = Fruit/seeds **N** = Nectar **B** = Buds/foliage **I** = Insects

PLANT SPECIES FOR GOLDEN BAY ESTUARIES ECOSYSTEM		PLANTING RATIO - EARLY STAGE	PLANTING RATIO - LATER STAGE	PLANT PREFERENCES										Maximum Height (metres)	Food Type
Botanical Names	Māori & Common Names			Wet	Moist	Dry	Sun	Shade	Frost	Saline	Upper Estuarine Zone	Lower Estuarine Zone	Brackish Wetland		
SHRUBS & CLIMBERS															
Coprosma propinqua	mikimiki	2	1	1	1	1	1	0	1	½	U			3	F
Leptospermum scoparium	mānuka	2	0	1	1	1	1	0	1	½	U			4	NI
Plagianthus divaricatus	mākaka, coastal ribbonwood	2	0	½	1	1	1	0	1	½	U			1.5	
Muehlenbeckia complexa	scrambling pōhuehue	2	0	0	½	1	1	0	1	½	U			2	FBI

Prepared by Shannel Courtney for Tasman District Council, June 2004
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PLANT SPECIES FOR GOLDEN BAY ESTUARIES ECOSYSTEM		PLANTING RATIO - EARLY STAGE	PLANTING RATIO - LATER STAGE	PLANT PREFERENCES										Maximum Height (metres)	Food Type
Botanical Names	**Māori & Common Names**			**Wet**	**Moist**	**Dry**	**Sun**	**Shade**	**Frost**	**Saline**	**Upper Estuarine Zone**	**Lower Estuarine Zone**	**Brackish Wetland**		
GRASSES, SEDGES & GROUND COVERS															
Apium prostratum ssp. prostratum	sea celery	0	1	0	1	½	1	½	½	½	U			0.1	
Apodasmia similis (=Leptocarpus)	oioi, jointed rush	2	0	½	1	0	1	0	½	½	U		B	1.5	I
Austrostipa stipoides	estuary needle tussock	2	0	½	1	1	1	0	½	½	U	L		1	I
Baumea arthrophylla	claw sedge	2	0	½	1	0	1	0	½	½	U			1.5	I
Bolboschoenus caldwellii	pūrua grass	2	0	1	½	0	1	0	½	½			B	1	I
Carex flagellifera	whip sedge	2	0	½	1	½	1	0	½	½	U			0.5	
Carex litorosa	delta sedge	2	0	1	1	0	1	0	½	½	U	L		0.7	
Centella uniflora	centella	0	1	1	1	½	1	½	½	½	U		B	0.1	
Chenopodium glaucum var. ambiguum	hua inanga	0	1	½	1	1	1	0	½	½	U	L		0.1	B
Cotula coronopifolia	bachelors button	0	2	½	½	0	1	0	½	½			B	0.1	
Cyperus ustulatus	upoko tangata	2	0	½	1	½	1	0	½	½			B	1	F
Isolepis nodosa	knot sedge	2	0	0	½	1	1	0	½	½	U	L		1	
Juncus kraussii ssp. australiensis	sea rush	2	0	1	1	0	1	0	½	1	U	L		1	I
Lachnagrostis billardierei	wind grass	1	0	0	½	1	1	0	½	½	U			0.5	
Leptinella dioica	coastal button	0	2	½	1	½	1	½	½	½	U			0.1	I
Lobelia anceps	shore lobelia	0	1	½	1	1	1	½	0	½	U			2	
Mimulus repens	native musk	0	2	1	1	0	1	0	½	½			B	0.1	
Samolus repens	sea primrose	0	2	½	1	½	1	0	½	1	U	L		0.1	
Sarcocornia quinqueflora	glasswort	2	0	1	½	0	1	0	½	1		L		0.1	
Schoenoplectus pungens	three square	2	0	1	½	0	1	0	1	1	U	L		0.8	
Schoenoplectus tabernaemontani	kāpungawhā, lake clubrush	2	0	1	½	0	1	0	½	½			B	2	I
Selliera radicans	remuremu	2	0	½	1	1	1	0	½	1	U			0.1	I
Suaeda novae-zelandiae	sea blite	2	0	1	½	0	1	0	½	1		L		0.1	
Tetragonia tetragonioides	New Zealand spinach	2	0	0	½	1	1	½	0	½	U			0.3	B
Typha orientalis	raupō	2	0	1	½	0	1	0	1	½			B	3	