










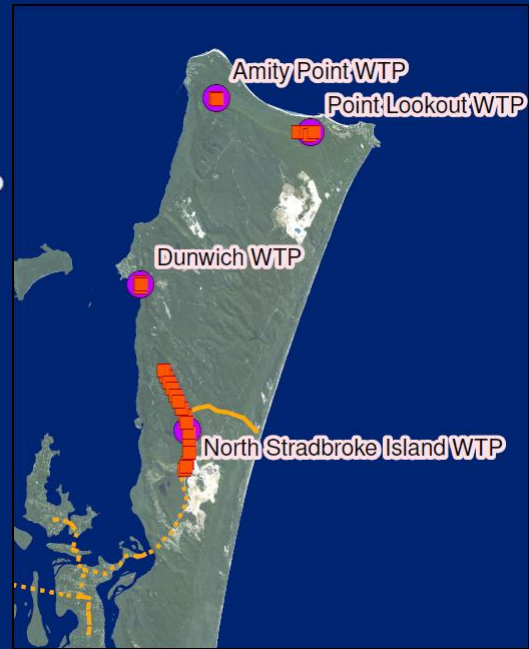
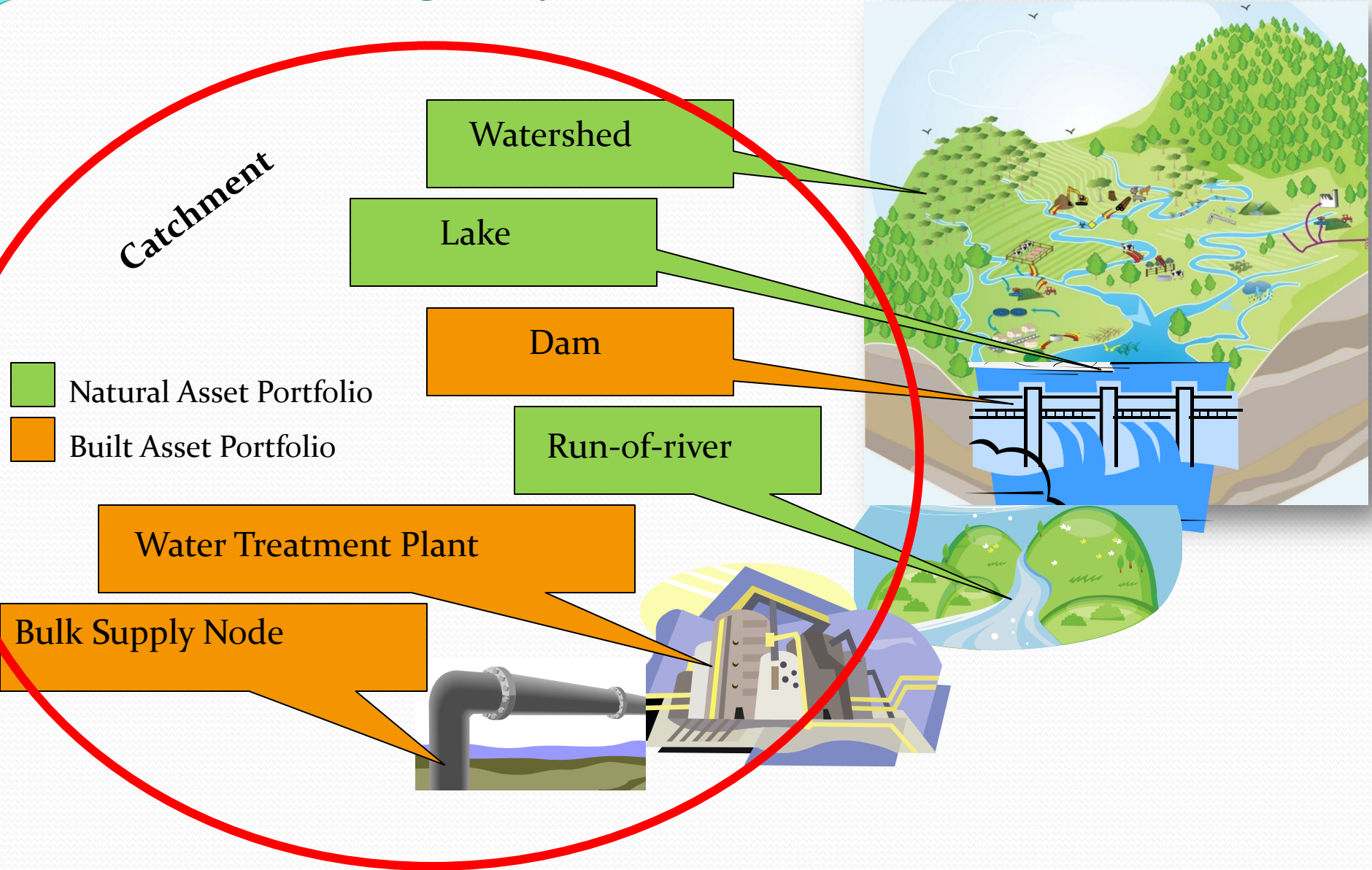


Legend

-  Weirs for ground water recharge
-  WTPs supplied by ground water
-  Weirs
-  Water Treatment Plants
-  Major Rivers
-  Storages
-  Seqwater Land
-  Catchment Boundaries
-  Seqwater Pipes
-  Non Seqwater Pipes
-  Production Bores



Understanding Seqwater's Catchments...



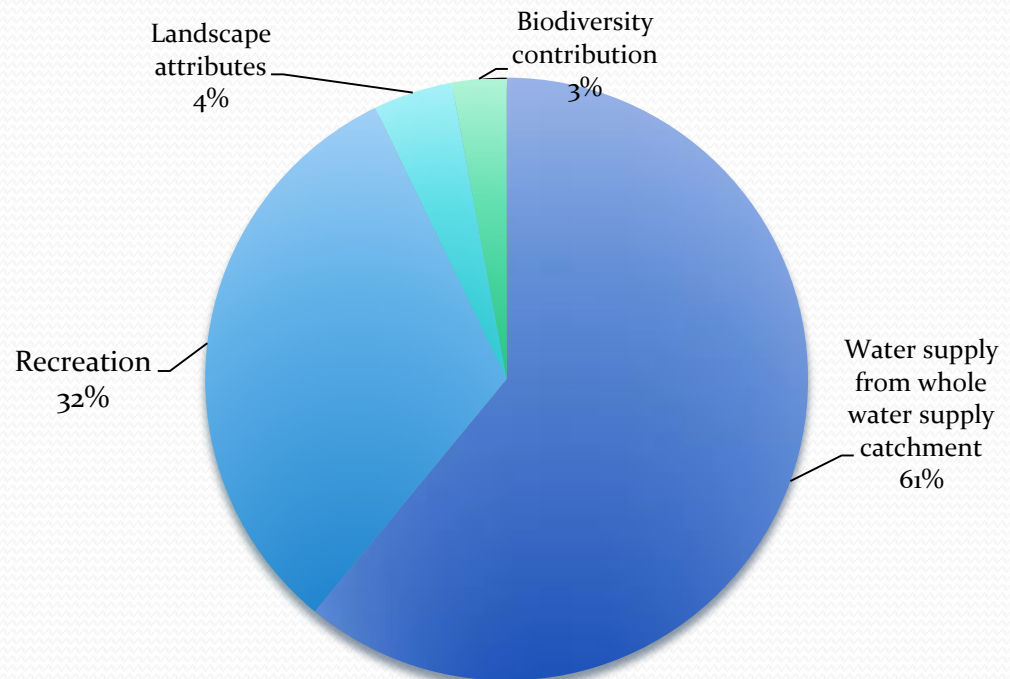
Asset Management Framework



Catchment Land Management Strategy: Annual Benefit From Catchments (base case)

Annual Benefits (direct and indirect) from Catchments

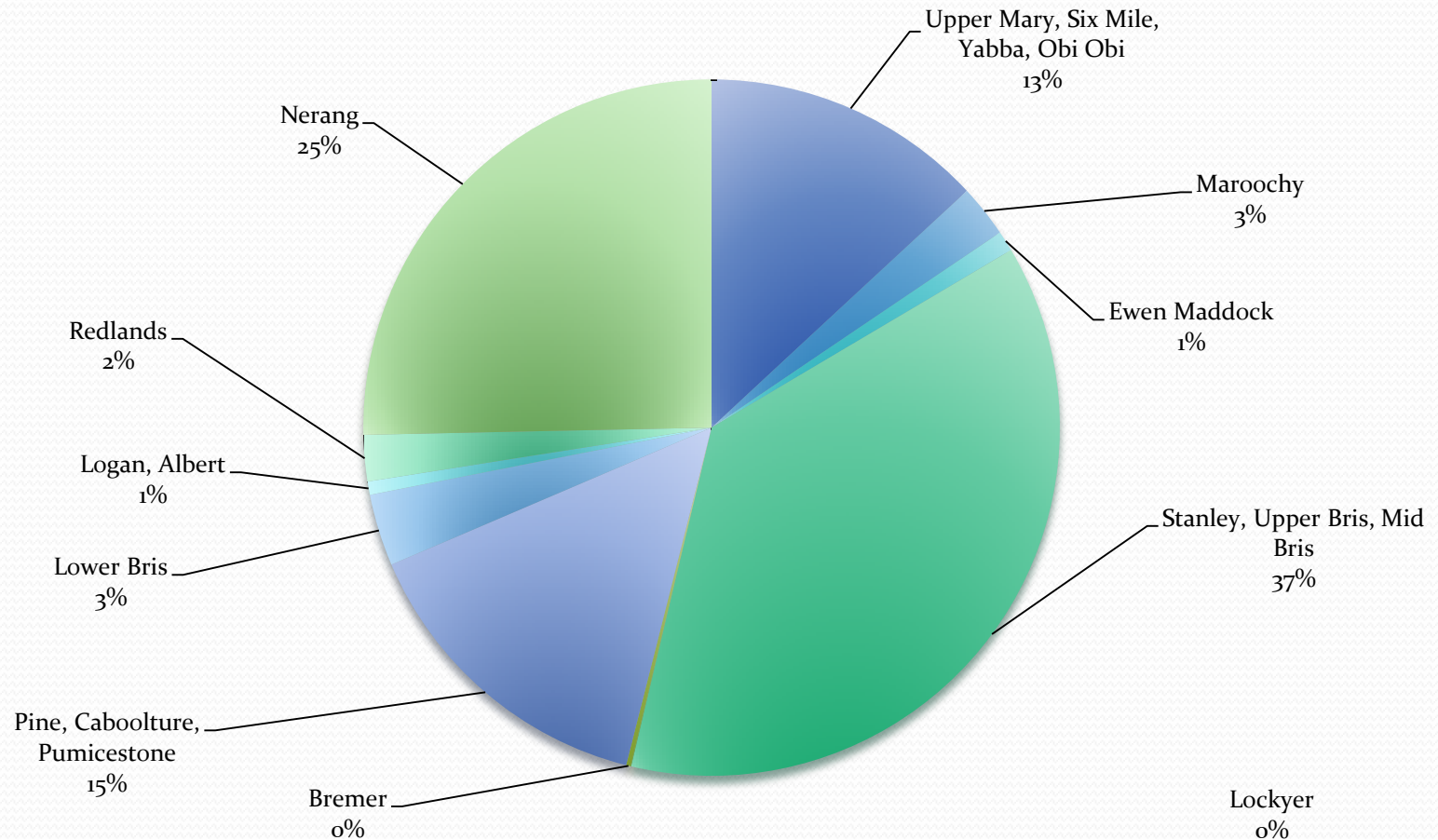
| Types of benefits | Value \$ million |
|--|------------------------|
| Raw water supply from catchment ² | 161 |
| Recreation | 84 |
| Landscape attributes | 11 |
| Biodiversity contribution | 8 |
| <i>Total benefits</i> | <i>264</i> |



¹ It is important to note that there are gaps in the data used to develop these estimates. Identifying these have informed actions in the Strategy.

² Consistent with appropriate methodologies to value this benefit, a replacement cost approach has been used. Costanza et al. (1997), Barbier (2007), Elsin et al. (2010) and Al Appleton pers. comm.

Distribution of Water Supply Benefits



North Stradbroke Island - Actions Register

| Offtake | Threat/ Opportunity category | Threat/ Opportunity | Action ID | Action Name | Action Description |
|---|---|---|--------------|--|---|
| All | Wildfires | Wildfire damage to built and natural assets | 0001 | Review and update the Fire Management Plan for North Stradbroke Island | Review and update the existing Fire Management Plan/Strategy for NSI. Strategies should be developed that act to manage the risk profile on Seqwater land holdings in particular around bores, borefields and other built infrastructure. Liaise with RCC & other applicable stakeholders such as QPWS, DNRM, Sibelco and the Quandamooka People, regarding fire management and development of the management plan. |
| All | Saltwater intrusion | Assess risk of saltwater intrusion | 0002 | Assess risk of saltwater intrusion from groundwater extraction | Through research and investigation, identify the limits for groundwater extraction to prevent intrusion of seawater into the freshwater aquifer. |
| All | Wildfires | Wildfire damage to Seqwater built assets | 0003 | Reduce the potential for wildfire to occur | Continue to conduct regular maintenance of vegetation on Seqwater land, including around the North Stradbroke Island, Amity, Dunwich and Point Lookout WTP and all access trails. Focus on controlling fuel loads. Also conduct vegetation maintenance around the 15 bores that make up the central bore field and the Herring Lagoon intake. |
| Herring Lagoon | Wildfires | Herring Lagoon Fire Hose | 0004 | Install a fire hose at Herring Lagoon | Consider installing a fire hose at the Herring Lagoon pump station. Set up the fire hose system so that it draw water from the Lagoon in the event of a fire breaking out at or around the pump station. |
| All | On-site Wastewater Treatment Systems (OWTS) | Contamination from effluent seepage/runoff | 0005 | Monitor groundwater for parameters related to OWTS effluent discharges | Include in the groundwater quality monitoring program for the North Stradbroke Island, parameters that highlight potential contamination from OWTS effluent seepage. These would include nutrients and pathogens. |
| Northern & Southern bore fields, Herring Lagoon | Water supply | Reliance on groundwater as a water supply | 0006 | Investigate the opportunity to rely 100% on groundwater reserves | Investigate the opportunity to rely 100% on groundwater resources as the source of water for routine operations. Ensure that the Herring Lagoon water supply option is kept in place in case of an emergency. |
| All | Roads & Infrastructure | Contaminant runoff from unsealed roads | 0007 | Identify unsealed roads with a high risk of contaminant runoff/transport | Identify unsealed roads on the island that have a high risk of transporting contaminants (oils, grease, sediment) into surface water. Focus on roads upstream of surface waters. |
| All | Wildfires | Fire break assessments | 0008 | Conduct on ground fire break assessments | Conduct an on the ground assessment of all fire breaks on North Stradbroke Island. Include location and condition data of these fire breaks in the GIS system. Where requested provide mapping to relevant stakeholders. |
| All | Recreation | Recreation on Seqwater land | 0009 | Manage recreation on Seqwater land | Through the Recreation Management Framework and master planning process continue to identify and mitigate recreation activities on Seqwater land that pose a risk to water quality. |
| All | Native vegetation | Vegetation cover | 0010 | Improve vegetation cover on both Seqwater and non Seqwater land | As per the Seqwater Operational Plan 2012-13, set and achieve targeted improvements to vegetation cover (% hectares) on both Seqwater and non Seqwater land. |