

TABLE: Burnett-Baffle Water Quality Improvement Plan (WQIP) – Lower Burnett, Kolan and Elliott Basin waterway ecological values, October 2008

The accompanying table and map summarise the ecological values of fresh, estuarine and coastal/marine waters in and adjacent to the lower Burnett, Kolan and Elliott Rivers and their tributaries. This work forms an input to the Burnett-Baffle WQIP being undertaken by the Burnett Mary Regional Group.

The table gives particular regard to high ecological value (HEV) waters. Draft HEV waters were provided to and discussed at a community workshop at Bundaberg in May 2007. Results from the community workshop were subsequently placed on the BMRG web site and emailed to participants for comment. The project team has subsequently made a series of changes to the tables and mapping based on feedback received and further technical review.

Major changes (eg main boundary changes) are shown in **yellow highlighting**.

Ecological values of waterways were derived from:

- default HEVs (key estate and other protection designations – eg National Park);
- identification of ecological values through technical assessments prior to the community workshop. These included a review of results from the Burnett Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM, EPA, 2006) for freshwaters – refer: www.epa.qld.gov.au/aquabamm;
- feedback from workshops; and
- other technical review pre and post-workshop.

All identified areas are draft and subject to further change. Further comment on these and/or other waterway ecological values can be provided as part of the public feedback process for the draft WQIP.

TABLE: Burnett-Baffle Water Quality Improvement Plan (WQIP) – Lower Burnett, Kolan and Elliott Basin waterway ecological values, October 2008

Main changes to areas containing HEV waters following stakeholder consultations in 2007 are shown in **yellow highlighting**.

Ecological Values of Lower Burnett, Kolan and Elliott Waters				
WATER TYPE/ Sub catchment/ waterway	Code on map	HEV waters and values	Changes to HEVs since round 1 consultation (May 2007)	Other significant natural assets
ALL WATERS				
DEFAULT HEV WATERS		<p>National Parks (NP), Forest Reserve (where proposed to become NP), Fish Habitat ‘A’ areas, zones under the Marine Parks Act (eg Marine National Park, Preservation, Scientific Research, and Buffer zones: all of these = ‘highly protected areas’ under Marine Parks Act/Regulation).</p> <p>Additional to the above, the following zones/estates have also been considered for their waterway ecological values in workshops and, where agreed in workshops, have also been identified as HEV: State Forests, Conservation Parks, Nature Refuge, Marine Park Conservation Park zone and Dugong Protection Areas (A/B).</p>	<p>Nil – some further investigation of potential waters in specific SFs undertaken and reported below.</p>	
FRESHWATERS				
KOLAN RIVER and GIN GIN CREEK				
Kolan River main channel and tributaries		<p>HEV waters: 1) Kolan R/tributary headwaters (mainly upstream of Fred Haigh Dam) - Warro NP (part), Bilburin NP (part), Littabella Forest Reserve (FR) part, Bania NP/Wonbah FR (part).</p> <p>Values: These are largely minimally disturbed upland freshwaters in protected estate. In the main they have limited catchment clearance, high remnant vegetation, and low level of water resource development/flow alteration.</p> <p>Several of these areas link to HEV waters in adjacent catchments (Littabella, Burnett).</p>	<p>Nil</p>	

Ecological Values of Lower Burnett, Kolan and Elliott Waters				
WATER TYPE/ Sub catchment/ waterway	Code on map	HEV waters and values	Changes to HEVs since round 1 consultation (May 2007)	Other significant natural assets
		<p>HEV waters: 2) Waters in upper catchment headwater tributaries of the Kolan (largely uncleared areas), some of which are adjacent to protected estate in Kolan and also adjoin HEVs in adjacent (Burnett, Littabella) catchments. Egs of these Kolan headwater tributaries are:</p> <ul style="list-style-type: none"> o south: Branch, Five Mile, Chinaman, Galatea, Scrub, and Dinner Cks; o east: 4 Mile, Stony Cks, Broken, Sandy, Little Sandy, Rocky Cks. <p>Values: Available information suggests high catchment naturalness and aquatic naturalness, with minimal impact to catchment, riparian zone and instream values. Several of these HEVs link to HEV waters in adjacent Catchments (Littabella, Burnett).</p>	<p>Localised extensions to include upland headwaters adjacent to protected estate, partly based on comments in EVs workshop and further technical review.</p>	
Gin Gin Creek		<p>No HEV waters identified to date for Gin Gin Ck. Small southern tributary (Dairy Ck) has been identified as part of a HEV area linking to upper Burnett HEVs in Mt Perry/Boolbunda Range.</p>	<p>Small area of Dairy Ck has been identified as part of a proposed HEV area linking to upper Burnett HEVs in Mt Perry/Boolbunda Range.</p>	
LOWER BURNETT (upto junction of Burnett and Barambah Ck (near Gayndah)				
Burnett River tributaries (eg Degilbo Ck, Splitters Ck, Perry River)		<p>HEV waters: 1) Includes waters in Cordalba FR, Woowonga NP, Mt Walsh NPs. Values: Within protected estate</p>	<p>Nil</p>	
		<p>HEV waters/values: Mc Coy Ck (bu0316) (near Ben Anderson Barrage south side)*: identified as having high naturalness aquatic, high naturalness catchment, high threatened species/ecosystems and high special features. Has a direct link to the Burnett estuary which is free from significant instream barriers.</p>	<p>Removed from HEV after feedback from EVs workshop and further technical review.</p>	<p>McCoy Ck retains natural values and good connectivity to estuarine waters. Splitters Ck (north side of the Burnett River) also has recognised ecological values including good connectivity to estuarine waters and EVR taxa. It is subject to considerable action by community members to rehabilitate and improve its values.</p>

Ecological Values of Lower Burnett, Kolan and Elliott Waters				
WATER TYPE/ Sub catchment/ waterway	Code on map	HEV waters and values	Changes to HEVs since round 1 consultation (May 2007)	Other significant natural assets
		HEV waters/values: Unit bu0189 (Currajong Ck - adjacent to St Agnes Ck near Wallaville, north side of Burnett)*: very high naturalness (aquatic), high naturalness (catchment), very high diversity/richness, high threatened species, very high priority species and high connectivity.	Removed from HEV after further review. Area is substantially cleared.	
		HEV waters/values: St Agnes Ck (unit bu0188) adjacent to Perry R, north side of Burnett)*: high naturalness (aquatic), very high naturalness (catchment), high special features, very high connectivity	Localised boundary change to remove cleared/agricultural area (lower reaches), and rural residential sub division (in north).	
		HEV waters/values: Perry River (unit bu0186, adjacent St Agnes Ck, north side of Burnett)*: very high naturalness (aquatic), high naturalness (catchment), high diversity/richness (incl fish, macroinvertebrate and macrophyte richness), very high priority species and special features.	Nil	
		HEV waters/values: Lower Degilbo and Tawah Cks (unit 0327, extending upto Woowonga NP near Biggenden)*: high naturalness (aquatic), high naturalness (catchment), high priority species, very high connectivity.	Boundary change to unit 327 to remove cleared areas from HEV after further technical review– new boundaries reflect default HEVs.	
		HEV waters/values: Upper Degilbo Ck (unit bu0329, near Biggenden, partly located in Mt Walsh NP)*: high naturalness (aquatic), high naturalness (catchment), high diversity/richness, high threatened species, high special features and high connectivity.	Boundary change to remove cleared areas from HEV after further technical review – new boundaries reflect default HEVs and include reaches in Mungore and Swindle Cks.	
		HEV waters/values: Mt Perry/Boolbunda Range area (units bu0190, 0191)*: These units have high naturalness (aquatic) and high naturalness (catchment). These units each have high naturalness (aquatic) and high naturalness (catchment). Unit 0190 (top of catchment) has a high rating for threatened species.	Boundary changes made to units 190 and 191 to exclude developed/cleared sections. These HEV areas are mainly within State Land. Unit 190 HEV creeks include Major, Sunday Cks and unit 191 includes a trib of Sunday Ck.	

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			(This area links to Dairy Ck HEV waters draining into Gin Gin Ck in the Kolan system).	
		HEV waters/values: Unit 0196 (Mingo Creek,) has high naturalness (aquatic) and high naturalness (catchment) and a very high rating for priority species. Unit includes Middle, Outside Cks in upper reaches.	Based on EVs workshop advice, boundaries revised to remove sections of Mingo Ck/Burnett River inundated by Paradise Dam and cleared. Remaining reaches are in headwaters (Middle, Outside Cks).	
BURNETT RIVER MAIN CHANNEL				
Lower Burnett - downstream Paradise Dam		HEV waters/values: Burnett River and adjacent tribs (unit 0204, which includes Burnett River, Cabbage Tree, Granite, Camp Cks*): high naturalness (aquatic), high naturalness (catchment), high priority species, very high connectivity.	Following EVs workshop and further review, this unit has been removed from HEV (effects of dam and clearing in catchment).	
Lower Burnett – Paradise dam surrounds		HEV waters/values: Goodnight Scrub NP, selected creeks identified in Burnett AquaBAMM trial. Burnett River around Paradise Dam (units bu0175, 0182, 0183, 0184)*: Some of these areas have been influenced by the Paradise Dam development.	Revisions made so that impounded and cleared reaches (175, 182) removed from HEV boundaries. Units 183/184 – boundaries revised to more closely follow default HEV (Goodnight Scrub NP)	
Lower Burnett above Paradise Dam		HEV waters/values: Grays Waterhole (unit bu0334/5) (Burnett River near Gayndah)*: very high naturalness aquatic, high naturalness catchment, very high diversity/richness, special features and connectivity (provides important habitat for lungfish, with some of the largest/oldest lungfish found in this area).	This reach is upstream of dam limits and has been retained as HEV. Boundaries revised to more closely follow waterhole dimensions (catchment has some clearance).	**FW to fix boundaries**

Ecological Values of Lower Burnett, Kolan and Elliott Waters				
WATER TYPE/ Sub catchment/ waterway	Code on map	HEV waters and values	Changes to HEVs since round 1 consultation (May 2007)	Other significant natural assets
COASTAL FRESHWATER CREEKS BETWEEN KOLAN AND ELLIOTT RIVERS				
Moore Park Ck (north of Burnett), Kellys Ck (Bargara), Rifle Range Ck (Innes Park). Palmers Ck, Moneys Ck		<u>HEV waters:</u> No HEV waters identified	Nil	
ELLIOTT RIVER				
Elliott River main channel and tributaries		<u>HEV waters:</u> Bingera NP, Burrum Coast NP (part) <u>Values:</u> Within protected estate	Nil.	
COONARR AND THEODOLITE CREEKS				
Coonarr Ck		<u>HEV waters:</u> Burrum Coast NP <u>Values:</u> Within protected estate	Nil	
Theodolite Ck		<u>HEV waters:</u> Burrum Coast NP <u>Values:</u> Within protected estate	Nil	
ESTUARIES				
KOLAN RIVER				
		<u>HEV waters:</u> No HEV waters identified to date	Nil	
BURNETT RIVER				
		<u>HEV waters:</u> No HEV waters identified to date	Nil	

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COASTAL ESTUARIES BETWEEN BURNETT AND ELLIOTT RIVERS				
Moore Park Ck (north of Burnett), Kellys Ck (Bargara), Rifle Range Ck (Innes Park). Palmers Ck, Moneys Ck		<u>HEV waters:</u> No HEV waters identified to date	Nil	
ELLIOTT RIVER		<u>HEV waters:</u> Includes Elliott River FHA 'A' <u>Values:</u> High value water quality, species richness and special values. High fish species diversity. No impoundments – provides connectivity to freshwater wetlands. Unique hydrology. Reefs – soft coral reefs within estuary; many seasnakes and turtles. Seagrass present. Dr Mays Is: 'Endangered' little tern nesting, 2 species of nesting resident shorebirds (Beach Stone Curlew, Pied Oystercatcher). Dr Mays Isld also contains coral reef.	Seaward boundary revised to incorporate full extent of Dr Mays Island and adjacent coastal coral habitat (refer separate entry under coastal/marine). The boundaries of this area may change depending on results of coral studies being undertaken for the BMRG.	
COONARR CREEK		<u>HEV waters/values:</u> Burrum Coast NP. (FHA 'A' was identified in previous EPA studies as HEV).	Nil	
THEODOLITE CREEK		<u>HEV waters/values:</u> Burrum Coast NP. (FHA 'A' was identified in previous EPA studies as HEV).	Nil	

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COASTAL/MARINE				
KOLAN		HEV waters: Not identified as having HEV waters (but may contain important local sites/values). Refer estuary listing.	Nil	
BURNETT		HEV waters: Not identified as having HEV waters (but may contain important local sites/values). Refer estuary listing.	Nil	
SOUTH OF BURNETT		<p>HEV waters/values 1): Covering the Woongarra Marine Park (north of Elliott Heads), identified in earlier EPA studies as HEV.</p> <p>Water quality is good-fair based on regular monitoring by Woongarra Marine Park Monitoring and Education Association and Central Queensland University. The area is very important for marine biodiversity. It is part of an internationally significant turtle nesting beach (Mon Repos) with three turtle species listed under the Nature Conservation Act 1994 and EPBC Act 1999. The area covers more than 20km of significant fringing coral reef. There is a high species diversity of fish (>300 species), sharks (20 species), and sea snakes (8 species all listed under the EPBC Act 1999). A high invertebrate diversity includes hard and soft corals (>16 species, >70% cover), molluscs, (especially nudibranchs >400 species), echinoderms, and crustaceans (including hermit crabs, coral shrimps and crayfish.</p>		
		<p>HEV waters/values 2) Coral habitat off Dr Mays Island (Elliott River mouth – described in Elliott River above). Includes waters extending to the east of Elliott River Marine Conservation Park around the reef.</p> <p>Area has special values, representation, and connectivity values.</p> <p>Area supports coral communities growing on boulder substrates, similar to those of Burkitt’s Reef (a Green Zone and HEV area further north along the Woongarra coast within Great Sandy Marine Park). Dr Mays Island Reef is the southernmost outcrop of the reefs of the Woongarra coast and as such provides connectivity</p>	Boundaries of coral habitats are based on available information, but may change depending on results of coral studies being undertaken for the BMRG.	

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		<p>between reefs to the north, offshore seagrass & mangroves within Elliott River.</p> <p>HEV waters/values 3): Four Mile Reef – Offshore reef approx 10 km south-west of Elliott Head. (Includes 100m buffer surrounding 4-mile Reef).</p> <p>Area has high value naturalness catchment, rarity, diversity, representation, connectivity, and special values.</p> <p>Area comprises a coral reef consisting of a channelled rock shelf with 5 hectares of dense hard and soft coral coverage at a depth of 2-8 metres. Surrounded by sandy substrate of 13m depth, the reef features an unusually large expanse of short staghorn coral dominated by extremely large bommies of <i>Pocillopora damicornis</i>, known for its sensitivity to water quality and bleaching. There are various crater-like holes and ledges with several species of staghorn corals <i>Acropora</i>, plate corals <i>Montipora</i> and the subtropical coral species <i>Acropora solitaryensis</i>, <i>Acanthastrea lordhowensis</i> and <i>Favia favus-danae</i> near their northern range limits (pers comm. Annika Noreen, PhD student of Southern Cross University.) The reef supports coral reef fish, ‘vulnerable’ green turtles <i>Chelonia mydas</i> and a high population of sharks including cat sharks and bronze whalers. Largely unaffected by nearshore influences, its contributing catchment is largely protected area (including Kinkuna and Burrum Coast National Parks). Provides connectivity with deep water seagrass beds.</p>		

*: Results for these waterway units were sourced from EPA (2006) *Aquatic Biodiversity Assessment and Mapping Method (AquaBAMM)*, available from www.epa.qld.gov.au/aquabamm