

TABLE: Burnett-Baffle Water Quality Improvement Plan (WQIP) – Burnett Inland South (Boyne/Stuart, Barker-Barambah) waterway ecological values, October 2008

The accompanying table and map summarise the ecological values of freshwaters in the Boyne/Stuart and Barker/Barambah systems and the Burnett River around Gayndah. 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 Kingaroy 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) – Burnett Inland South (Boyne/Stuart, Barker-Barambah) 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 Burnett Inland South waters , including Boyne/Stuart, Barker-Barambah				
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 zone, scientific research zone, buffer zone: 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 zone and Dugong Protection Areas (A/B). [Note some of these are only applicable to estuarine or coastal/marine waters.]</p>	<p>Nil - Some further investigation of potential waters in specific SFs undertaken and reported below.</p> <p>Participants were also invited to nominate council reserves etc they considered met HEV criteria</p>	
FRESHWATERS				
BOYNE/STUART RIVERS				
Boyne and Stuart Rivers upstream of Boondooma Dam - main channel and tributaries		<p>HEV waters - default: Bunya Mountains NP HEV values: within protected estate</p>	Nil	
		<p>HEV waters/values: Upper Boondooma Ck (unit 0057) and upper Boyne R/Garden Ck (unit 0058), upstream of Boondooma Dam*: both these units recoded high scores for naturalness (aquatic), naturalness (catchment) and connectivity. The Boyne/Garden Ck unit also recorded a high special features score. The Upper Boyne was also identified as having a natural flow regime.</p>	<p>Following workshop comments and further technical review, units 0057 and 0058 have been removed from HEV. Adjacent unit 0055 (partly within Allies Ck</p>	

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			SF) has been included as HEV. Available information suggests it has high catchment naturalness and limited impacts to riparian and instream habitat.	
		HEV waters/values: Upper Stuart River (units 0141, 0144, and 0153)*: 0141 (immediately above dam) scored more highly with high naturalness (aquatic), high naturalness (catchment), high richness/diversity, and very high connectivity. Units 0144 and 0153 had high scores for naturalness (aquatic), and naturalness (catchment).	Following further technical review, these units have been removed from HEV. Each unit has considerable areas of cleared catchment and water infrastructure within or immediately adjacent to it. 141: Boondooma Dam d/s end; 144: Proston weir d/s end. 153: Gordonbrook Dam u/s end.	
		HEV waters/values: Top of catchment - headwaters of the Boyne (unit 0066), Reedy Ck (0068) and Stuart R (0071)*: unit 0066 scored very high naturalness (aquatic), high naturalness (catchment), high richness/diversity and very high special features. Unit 0068 scored very high naturalness (aquatic), and high naturalness (catchment). Unit 0071 scored high naturalness (aquatic), high naturalness (catchment), high richness/diversity, and very high priority species and special features.	Based on workshop comments and further technical review, HEVs in units 0066 and 0068 have been removed. The boundaries of HEV waters in unit 0071 have been revised to exclude areas of irrigation and other cleared/impacted areas. This unit retains HEVs in upper reaches (largely protected estate).	
Boyne River downstream of Boondooma Dam - main channel and tributaries		HEV waters/values: Boyne R and tributaries d/s of dam, including Ballyhew, Geer, Small Cks (unit 00137)*: high naturalness (aquatic), high naturalness (catchment), high richness/diversity, high priority species and very high special features.	Nil	
		HEV waters/values: Toondahra Ck (unit 0292, tributary of the Boyne on western side)*: this unit scored very high for both	Following review of landuse information, this unit has been	

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		naturalness (aquatic) and naturalness (catchment), and high for priority ecosystems.	removed from HEV (cleared catchment).	
		<p>HEV waters/values: Lower Boyne R and tributaries (near Burnett junction), including Derrarabungy, Coocher Cks (units 0299, 0300, 0302)*: Units 0300 and 0302 both scored very high for naturalness (aquatic) and high for naturalness (catchment), while unit 0299 scored high for each of these.</p> <p>For other criteria, unit 0299 scored high in diversity and threatened species, and received very high scores for priority species, special features and connectivity. Unit 0300 scored high in threatened species, while unit 0302 received high scores for diversity and priority species, and very high scores for special features and connectivity.</p>	<p>The following boundary changes have been made to these units following further review:</p> <p>299 (trib of Boyne – part Pile Gully SF): reduction to exclude cleared/impacted sections from HEV;</p> <p>300 (upper reaches Ban Ban, Dead Man and Nipping Cks – part Malmaison SF): reduction to exclude cleared/impacted sections;</p> <p>302: reduction in area to focus on main stream channel which retains high aquatic scores (exclude cleared catchment).</p>	
Burnett tributaries adjacent to Boyne (south side of Burnett)		HEV waters/values: Aranbanga Ck (southern trib, unit 0331)*: recorded high scores for naturalness (aquatic), naturalness (catchment), diversity/richness, threatened species, and connectivity.	Boundaries of HEV revised to exclude developed sections (HEVs now focussed on upper reaches of Wallaby Ck).	
BARKER/ BARAMBAH CREEKS				
Barker/Barambah Creek main channel and tributaries above Bjelke Petersen Dam		<p>HEV waters - default Bunya Mountains NP, Tarong NP, Cherbourg NP, Wrattens FR, Kandanga FR</p> <p>HEV values: within protected estate</p>	Nil	
<u>Barker Creek above BP Dam</u>		HEV waters/values: Headwaters of Wengen/Little Wengen Cks (unit 0099):* within NP at top of catchment. Containing high naturalness (aquatic) and very high naturalness catchment).	Nil [following workshop suggestions, reaches outside existing HEV area (eg Saddle	

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			Tree Creek) were reviewed but no changes were made, as they were largely cleared].	
		HEV waters/values: Barker Ck (unit 0086)*: recorded high scores for naturalness (aquatic), naturalness (catchment), diversity/richness, priority ecosystems, threatened species, and connectivity.	Based on workshop comments and further technical review, HEV in unit 0086 have been removed.	
		HEV waters/values: Tanduringie Ck (unit 0078, flowing partly through Tarong NP)*: high scores for naturalness (aquatic), naturalness (catchment), diversity/richness, and very high priority ecosystems.	Changes to HEV boundary made to exclude irrigation/cropping – HEV area pulled back to NP boundaries.	
		HEV waters/values: Meandu Ck (unit 0082) downstream of Tarong *: Scored very high for naturalness aquatic and high for naturalness catchment.	Based on workshop comments and further technical review this unit has been removed from HEV. (area is within Tarong operations)	
		HEV waters/values: Barker Creek amalgamation immediately above Bjelke Petersen Dam storage. Comprises units 0102 (most upstream), 0104, 0114, 0119, 0156*. All units scored high to very high naturalness (aquatic) and naturalness (catchment), with units 114 and 119 scoring very high naturalness (aquatic).	Based on workshop comments and further technical review, this unit has been removed from HEV (large extent of clearing, disturbance). Nearby areas in Wondai SF were reviewed (appears largely remnant veg). At this stage they are not included (BMRG study of potential WQ reference sites indicates some impact).	
<u>Barambah Creek above BP Dam</u>		HEV waters/values: Moonda Waamba Ck (nearest above dam – unit 0112) and upper Tankallaman Ck (unit 0108 – adjoining Kandanga and Wrattens FRs)*: Unit 0112 scored high naturalness (aquatic), high naturalness (catchment), high diversity and high	Based on workshop comments and further technical review, HEV boundaries of unit 0108 have been revised to follow	

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		connectivity. Unit 0108 scored high naturalness (aquatic), high naturalness (catchment) and high priority species.	FR, while 0112 has been removed from HEV (clearing, and limited available info).	
Barker/Barambah Creek main channel and tributaries below Bjelke Petersen Dam, including Boonara Ck		HEV waters - default: Include Nangur, Ban Ban, Woroon & Beninbi NPs; Wrattens, Grongah, Teebar, Kilkivan FRs HEV values: Within protected estate.	Nil	
		HEV waters/values: Jura Ck (unit 0159 – tributary of Goomeri Ck/Boonara Ck, located west of Goomeri and east of Murgon)*: recorded high scores for naturalness (aquatic) and naturalness (catchment).	Removed from HEV based on landuse in catchment and limited other supporting information.	
		HEV waters/values: Boonara/Planted Ck headwaters (unit 0171)*: these adjoin or are within the Grongah NP (previously Teebah and Grongah FRs) at the top of the catchment. Very high values for naturalness (aquatic) and naturalness (catchment), and high values for diversity/richness, priority species, connectivity.	Boundaries of HEV have been revised to follow existing protected estate (Grongah NP)	
		HEV waters/values: Lower Barambah Ck (unit 0163, NW Murgon, adjacent to Woroon NP at junction with Sunday Ck)*: high naturalness (aquatic), naturalness (catchment), connectivity and very high priority species and special features.	Removed from HEV given rural land use in catchment and water infrastructure/flow effects.	
		HEV waters/values: Lower Boonara/Barambah amalgamation near junction of Boonara and Barambah Cks, comprising units 0343, 0346, 0347, 0350 (part of western section in Beninbi NP)*: Units 0343, 0346 and 0347: all scored very high aquatic (naturalness), high naturalness (catchment) and high diversity/richness. Unit 0343: very high priority species and special features. Units 0346 and 0347: high-very high connectivity. Unit 350 had high aquatic (naturalness), and high naturalness (catchment).	Units 343/346: retained Following further review: Unit 347: removed, given altered flows and water quality Unit 350: removed, given poor aquatic habitat and cleared catchment	
BURNETT RIVER (around Gayndah)				
Burnett River main		Selected creeks identified in Burnett AquaBAMM trial,	See below.	

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channel		comprising an amalgamation of lower Reids Ck (unit 0333 - north side of Gayndah), unit 0334 (Burnett R downstream Gayndah – containing Grays Waterhole), and Burnett R/Oaky Creek on south side (0339).		
		HEV waters/values Reids Ck (0333)*: recorded high naturalness (aquatic), naturalness (catchment), diversity/richness, threatened species, priority species, and very high connectivity.	Unit 333: removed, given presence of weir immediately d/s, average aquatic habitat condition, cleared catchment.	
		HEV waters/values Grays Waterhole (unit 0334/5)*: some of the highest scores of all recorded units, with very high naturalness (aquatic), naturalness (catchment), priority ecosystems, 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**
		HEV waters/values Unit 0339*: very high naturalness (aquatic), high naturalness (catchment), high diversity/richness, threatened species, and connectivity, and very high priority ecosystems and special features.	Removed from HEV as altered catchment, altered flows/hydrology (weir upstream) and average aquatic habitat condition. Unit 'fails' one WQ indicator (pH)	

*: 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