ATTACHMENT 3

Part 2: Updated Common Methods (Working Draft TKURFMP Volume 1: Background and Overview - Page 38)

			River Edge Envelope	River Bed Envelope	Recognition of Buffers as a River Management Tool	Pool Riffle Run Envelope	Historic Channel Lines	Isolated Works Support	Code of Practice	Mixed Vegetation Planting	Alternative land uses within planted buffers	Protection against deforestation in Upper Catchment	Land Use Controls	Designations	Flood Hazard Maps	Rural Stopbank Policy	Scheme Decision Making Policy	Abandonment/Retirement of Assets	Public ownership of river margins	Emergency Management Planning	Community Preparedness	Flood Forecasting and Warning System	Landslide Monitoring	Environmental Strategy	Community Support officer	Care Groups and Clubs
RIVER	REACH	DESCRIPTION	RIVER	MANAGEI	MENT/0	OPERATION	RESPON	ISES					PLANN	ING AND) POLICY RE	ESPONSI	ES			EMER(ANAGEM	ENT	ENVIRC ENHAN RESPON	CEMENT	
GA	1	Ruamahanga Headwaters						✓	✓			√					 			✓		✓	✓		✓	
HAN	2	Mount Bruce	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	√	✓	✓	✓	√	✓	✓	✓	✓		✓	✓	√
RUAMA	3	Hidden Lakes	✓	✓	√	✓	✓	✓	√	✓	✓		✓	✓	✓	✓	√	✓	✓	✓	✓	✓	✓	✓	✓	✓
RI	4	Double Bridges	✓	✓	√	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	√	✓	✓	✓	✓	✓		✓	✓	√
	5	Te Ore Ore to Waingawa	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	√	✓	✓	✓	√	✓	✓	✓	✓		✓	✓	✓
	6	Waingawa to Gladstone	✓	✓	√	✓	✓	✓	✓	√	✓		✓	√	✓	✓	√	✓	✓	✓	✓	√		✓	✓	✓
	7	Gladstone to Kokotau	✓	✓	√	✓	✓	✓	✓	✓	✓		✓	√	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
	8	Kokotau to Waiohine	✓	✓	✓	✓	✓	✓	√	✓	✓		√	√	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
ΑU	9	Waipoua Headwaters						✓	✓			✓								✓		✓	✓		✓	
WAIPOUA	10	Upper Waipoua	✓	✓	✓	✓	√	✓	✓	✓	✓		✓	√	✓	✓	✓	✓	✓	✓	√	✓		✓	✓	√
>	11	Mikimiki	✓	✓	✓	✓	✓	✓	√	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
	12	North Masterton	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	√	✓	✓	✓	✓	✓		✓	✓	✓
	13	Masterton	✓	✓	√	√	✓	✓	√	✓	✓		√	√	✓		√	✓	✓	✓	√	✓		√	✓	√
۸A	14	Waingawa Headwaters						✓	✓			✓								√		✓	✓		✓	
WAINGAWA	15	Upper Waingawa	✓	✓	√	✓	✓	✓	✓	✓	✓	✓	✓	√	✓	✓	✓	√	✓	✓	✓	√		√	√	√
WAI	16	Upper Plains	✓	✓	√	✓	√	✓	✓	√	✓		✓	√	√	✓	√	√	✓	✓	✓	√		√	√	√
	17	South Masterton	✓	√	√	√	✓	✓	√	✓	√		√	√	√	✓	✓	√	√	✓	√	√		√	√	√
RS	18	Kopuaranga	✓		√			✓	✓	√	✓		✓	√	✓	√	√	✓	✓	✓	√	√		√	✓	✓
RIVERS	19	Whangaehu	√		√			✓	✓	√	✓		✓	√	✓	√	√	✓	√	✓	√	√		√	√	✓
EASTERN	20	Taueru	√	✓	√	√	***************************************	✓	√	√	✓		✓	√	✓	✓	✓	✓	√	√	✓	√		✓	✓	✓

Ruamahanga River

River Edge Envelope
River Bed Envelope
Recognition of Buffers as a River Management Tool
Pool Riffle Run Envelope
Historic Channel Lines
Isolated Works Support
Code of Practice
Mixed Vegetation Planting
Alternative land uses within planted buffers
Protection against deforestation in Upper Catchment
Land Use Controls
Designations
Flood Hazard Maps
Rural Stopbank Policy
Scheme Decision Making Policy
Abandonment/Retirement of Assets
Public ownership of river margins
Emergency Management Planning
Community Preparedness
Flood Forecasting and Warning System
Landslide Monitoring
Environmental Strategy
Community Support officer
Care Groups and Clubs

RIVER	REACH	DESCRIPTION	RIVE	er man	IAGEN	1ENT/	OPERA	TION RI	ESPON	SES			PLAN	INING	AND PO	OLICY	RESPOI	NSES		MAN	RGENC IAGEM PONSES	ENT		ENH	IRONMI ANCEM PONSES	ENT
NGA	1	Ruamahanga Headwaters						✓	✓			✓					1			✓		✓	✓		✓	
₽	2	Mount Bruce	✓	✓	✓	✓	✓	✓	✓	✓	✓	√	√	✓	✓	✓	✓	✓	✓	√	✓	✓		√	√	V
JAMA	3	Hidden Lakes	√	✓	✓		√	✓	√	✓	✓	✓	√	√	✓	✓	✓	√	✓	✓						
RU	4	Double Bridges	√	✓	✓		√	✓	√	✓	✓	✓	√	√	✓	✓		√	✓	✓						
	5	Te Ore Ore to Waingawa	✓	√	√	√	√	√	✓	✓	✓		√	✓	√	✓	✓	✓	✓	✓	√	✓		√	✓	✓
	6	Waingawa to Gladstone	✓	√	√	√	√	√	✓	√	✓		√	✓	√	✓	✓	✓	✓	✓	✓	✓		√	✓	/
	7	Gladstone to Kokotau	✓	√	√	√	√	√	✓	✓	✓		√	✓	√	✓	✓	✓	√	✓	✓	√		√	√	✓
	8	Kokotau to Waiohine	✓	✓	✓	√	√	√	✓	✓	√		✓	√	✓	✓	✓	✓	√	✓	✓	✓		√	√	✓

- Headwaters in Ruamahanga Forest Park do not include buffer strips. Protection against deforestation and landslide monitoring are primarily tools used in this context. Environmental enhancement primarily managed by DoC.
- Mount Bruce Reach does not currently have buffer strips, however these be identified in the future as part of managing potential erosion.
- Protection against deforestation and landslide monitoring are not required throughout the remainder of the river with the exception of potential erosion identified at Hidden Lakes.

	Notes
Economic	Buffer strips help give greater certainty in relation to extent of private property protection. Equity across cost of erosion works and managing stop bank assets will provide ongoing challenge addressed in scheme decision making policy. Opportunities to deliver alternative economic benefit in buffer strips.
Resilient Communities	Operational, planning and emergency management responses provide flexibility to manage change and protect health and safety of community. Major project responses address risks to key public infrastructure at Waste Water Treatment Plant.
Cultural	Important to recognise eastern rivers may have differing braided character and associated management methods. Recognised need for ongoing collaboration with Maori to manage cultural sites and values.
Natural Spaces / Processes	Environmental enhancement responds to beneficial outcomes for natural spaces / processes. Buffer strips enable process of giving river room. Important to manage braided river system and associated habitats. Ongoing need for weed management.
Community Needs	Recreation safety is acknowledged alongside long term public ownership aspirations which may have the ability to improve river access along three river trails. Community aspirations are often mixed between allowing river to move and ensuring productive use of river margins.

Waipoua River

			River Edge Envelope	River Bed Envelope	Recognition of Buffers as a River Management Tool	Pool Riffle Run Envelope	Historic Channel Lines	Isolated Works Support	Code of Practice	Mixed Vegetation Planting	Alternative land uses within planted buffers	Protection against deforestation in Upper Catchment	Land Use Controls	Designations	Flood Hazard Maps	Rural Stopbank Policy	Scheme Decision Making Policy	Abandonment/Retirement of Assets	Public ownership of river margins	Emergency Management Planning	Community Preparedness	Flood Forecasting and Warning System	Landslide Monitoring	Environmental Strategy	Community Support officer	Care Groups and Clubs
RIVER	REACH	DESCRIPTION	RIVE	R MAN	IAGEMI	ENT / C	DPERA ⁻	TION RI	ESPONS	SES			PLAN	NING	AND PO	DLICY	RESPO	NSES		MAN	RGENO IAGEN PONSE:	IENT		ENH	RONM ANCEN ONSES	1ENT
NA	9	Waipoua Headwaters						✓	✓			✓							: : : : :	✓		✓	✓		✓	
IPO	10	Upper Waipoua	✓	✓	✓	✓	✓	✓	✓	√	✓		✓	✓	√	✓	\checkmark	✓	✓	✓	✓	✓		√	√	√

R	RE	DESCRIPTION	RIVE	RMAN	IAGEM	IENT/	OPERA	TION R	ESPO	NSES			PLA	NNING	AND F	OLICY	RESPO	ISES		RESF	PONSES			RESP	ONSES	
NA	9	Waipoua Headwaters						✓	✓			✓					1			✓		✓	✓		✓	
/AIPO	10	Upper Waipoua	✓	√	✓	✓	√	√	✓	✓	✓		✓	√	✓	√	✓	✓	✓	√	✓	✓		✓	√	√
>	11	Mikimiki	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	√
	12	North Masterton	✓	√	✓	✓	✓	√	√	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	√	✓
	13	Masterton	✓	✓	✓	✓	√	✓	✓	✓	✓		✓	✓	✓		✓	✓	√	√	✓	√		✓	✓	✓

- Headwaters extend into toe slopes of Tararuas within which buffer strips aren't applied. Protection against deforestation and landslide monitoring are primarily tools used in this context.
 Protection against deforestation and landslide monitoring are not required throughout the remainder of the river.

	Notes
Economic	Buffer strips give greater certainty in relation to extent of private property protection. Stop banks widely employed along river for which equity across cost of works will provide ongoing challenge addressed in scheme decision making policy. Opportunities to deliver alternative economic benefit in buffer strips.
Resilient Communities	Operational, planning and emergency management responses provide flexibility to manage change. Important to raise awareness of flood risks to roads. Risk to abutments of rail bridge is addressed.
Cultural	River forms key part of urban area. Recognised need for ongoing collaboration with Maori to manage cultural sites and values.
Natural Spaces / Processes	Environmental enhancement responds to beneficial outcomes for natural spaces / processes. Buffer strips enable process of giving river room.
Community Needs	Community access focussed in Masterton town centre. Land owner contribution may also require a higher level of ongoing management commitment in some areas.

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			River Edge Envelope	River Bed Envelope	Recognition of Buffers as a River Management Tool	Pool Riffle Run Envelope	Historic Channel Lines	Isolated Works Support	Code of Practice	Mixed Vegetation Planting	Alternative land uses within planted buffers	Protection against deforestation in Upper Catchment	Land Use Controls	Designations	Flood Hazard Maps	Rural Stopbank Policy	Scheme Decision Making Policy	Abandonment/Retirement of Assets	Public ownership of river margins	Emergency Management Planning	Community Preparedness	Flood Forecasting and Warning System	Landslide Monitoring	Environmental Strategy	Community Support officer	Care Groups and Clubs
RIVER	REACH	DESCRIPTION	RIVE	r mai	NAGEM	IENT / C	DPERA	TION R	ESPON	SES			PLAN	NING	AND P	OLICY I	RESPO	NSES		MAN	RGENC IAGEM PONSES	ENT		ENHA	RONMI ANCEM ONSES	
WA	14	Waingawa Headwaters						✓	✓			✓								✓		✓	✓		✓	
WAINGAWA	15	Upper Waingawa	√	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
WA	16	Upper Plains	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
	17	South Masterton	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓

- Headwaters in Ruamahanga Forest Park do not include buffer strips. Protection against deforestation and landslide monitoring are primarily tools used in this context. Environmental enhancement primarily managed by DoC.
- Upper Waingawa Reach does not currently include buffer strips, however these may be identified in the future as part of managing potential erosion.
- Protection against deforestation and landslide monitoring are not required throughout the remainder of the river.

	Notes
Economic	Inclusion of private land owners in upper reaches relates to costs / level of protection anticipated in reach. Buffer strips help give greater certainty in relation to extent of private property protection.
Resilient Communities	Risks to essential infrastructure including water supply, bridges and airfield managed as major project responses. Operational, planning and emergency management responses provide greater flexibility to manage change and seek to protect health and safety of community.
Cultural	Recognition that character of river is important to community, including recognition of importance as Masterton gateway. Recognsied need for ongoing collaboration with Maori to manage cultural sites and address cultural values.
Natural Spaces / Processes	Buffer strips respond to giving river room. Environmental enhancement responds enable beneficial outcomes for natural spaces / processes including ongoing need for weed management.
Community Needs	Potential to improve access at Masterton Gateway and to confluence.

Eastern Rivers attachment 3

			River Edge Envelope	River Bed Envelope	Recognition of Buffers as a River Management Tool	Pool Riffle Run Envelope	Historic Channel Lines	Isolated Works Support	Code of Practice	Mixed Vegetation Planting	Alternative land uses within planted buffers	Protection against deforestation in Upper Catchment	Land Use Controls	Designations	Flood Hazard Maps	Rural Stopbank Policy	Scheme Decision Making Policy	Abandonment/Retirement of Assets	Public ownership of river margins	Emergency Management Planning	Community Preparedness	Flood Forecasting and Warning System	Landslide Monitoring	Environmental Strategy	Community Support officer	Care Groups and Clubs
RIVER	REACH	DESCRIPTION	RIVEI	r man	IAGEN	1ENT / C)PERAT	ΓΙΟΝ R	ESPON	SES			PLAN	INING	AND P	OLICY F	RESPO	NSES		MAN	RGENC NAGEM PONSES	ENT		ENHA	RONM NCEM DNSES	1ENT
ERS	18	Kopuaranga	✓		✓			✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
RIVE	19	Whangaehu	✓		√			✓	✓	✓	√		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
EASTERN RIVERS	20	Taueru	√	√	√	✓		✓	✓	✓	✓		~	√	✓	√	√	✓	√	✓	✓	√		✓	✓	✓

- Eastern Rivers have substantial overlaps which can enable collective management.
- Riverbed envelope and pool run riffle envelope have potential application in lower reaches of Taueru River as this moves across the Wairarapa Plains.
- Historic channel lines have not been defined.
- Protection against deforestation and landslide monitoring do not impact on these rivers

	Notes
Economic	Management of willow provides majority of ongoing cost. Inclusion of buffer strips may help give greater certainty in relation to extent of private property protection in more erosion prone errors.
Resilient Communities	Emergency management responses provide a key contirbution to building resilience in communities in tandeem with more active targetted planning and river management responses.
Cultural	Recognised need for ongoing collaboration with Maori to manage cultural sites and address cultural values.
Natural Spaces / Processes	The impact of willow clogging water ways provides a particular challenge which requires ongoing management. Environment enhancement responses have ability to promote environmental improvements including targeted mixed native vegetation planting.
Community Needs	Access and recreation use is more limited. Opportunities to respond to focused community aspirations.