



South Creek Subcatchment

The South Creek subcatchment encompasses most of the Cumberland Plain of Western Sydney. The catchment is a shale-based catchment with no gorges or sandstone dominated landscapes. The majority of the streams are “meandering vertical” river channel types streams, which are under great threat as they are confined largely to the Cumberland Plain in the Hawkesbury Nepean catchment.

South Creek subcatchment is perhaps the most degraded subcatchment in the Hawkesbury Nepean. Hydrological and sediment regimes have been dramatically altered due to catchment vegetation clearance and increasing urbanisation. Increasing impervious surfaces in the catchment are causing changes to hydrology which has greatly altered the geomorphology and ecology of the watercourses.

A number of major Sewerage Treatment Plants discharge into South Creek and these, along with stormwater from urban areas and agricultural run off, contribute to the poor water quality of the streams. The recovery potential of the catchment’s streams is very low; however, there are some very important remnants of endangered vegetation along the riparian zones. The watercourses form extremely important habitat corridors although heavy woody weed invasion exists in the riparian zones.

Reach Management Recommendations – South Creek Subcatchment

Reach Name	Reach Description	Riparian Land Management Category	Reach Values	Reach Threats	Reach management recommendations (Planning, Education, Works, Monitoring, Institutional)
South R1	St Gregorys College to end of cut and fill section	Revegetation	<ul style="list-style-type: none"> Significant vegetation community (Cumberland Shale Hills Woodland) 	<ul style="list-style-type: none"> Modified / engineered channel (local stormwater works) Aquatic weed outbreaks Damaging access (humans and stock) Flow extraction Water quality <p>Action Triggers</p> <ul style="list-style-type: none"> Severe downstream impact (weeds; water quality) 	<ul style="list-style-type: none"> Revegetation with indigenous riparian vegetation (W) Management of aquatic weeds Management of stock impact on waterways (W) Encourage adoption of sustainable land management practices in riparian lands (E) Manage human impacts at public recreation river access points and along foreshores (E,W) Removal/replacement of exotic riparian vegetation (W) Increase community capacity for environmental restoration (E) Water quantity / flow management (I) Water quality / nutrient management (I)
South R2	From end of cut and fill section to confluence with Hawkesbury River at Windsor	Assisted Regeneration	<ul style="list-style-type: none"> Good riparian vegetation cover (but discontinuous) Wetland of regional or state significance (McGraths Hill Wetlands) Rare or threatened river category (Meandering Vertical) Significant vegetation community (Cumberland Shale Plains Woodland; Cumberland River Flat Forest; Castlereagh Shale-Gravel Transition Forest) Popular recreational fishing Identified flagship species (<i>Eucalyptus beaureana</i>) Significant irrigation water supply Significant community based environment activity 	<ul style="list-style-type: none"> Modified / engineered channel High woody weed invasion (African Olive, Privet) Aquatic weed outbreaks (Salvinia, Water Hyacinth) Damaging access (stock on private land and damaging human access at public sites) Barriers to ecosystem functioning Flow extraction Water quality <p>Action Triggers</p> <ul style="list-style-type: none"> Rare or threatened river category (Meandering Vertical) Severe downstream impacts (water quality and weeds) Severe immediate threat (contaminants in bed sediments) 	<ul style="list-style-type: none"> Removal/replacement of exotic riparian vegetation (W) Riparian wetland management Management of aquatic weeds Management of stock impact on waterways (W) Encourage adoption of sustainable land management practices in riparian lands (E) Manage human impacts at public recreation river access points and along foreshores (E,W) Aquatic habitat condition and connectivity improvement (P,W) Water quantity / flow management (I) Water quality / nutrient management (I) Maintain existing community based environment activity (E,P)
Eastern R1	Headwater from Regional Park to confined section	Revegetation	<ul style="list-style-type: none"> High public recreation access (Sydney Regional Park) 	<ul style="list-style-type: none"> Modified / engineered channel High woody weed invasion Aquatic weed outbreaks (Salvinia and Water Hyacinth) Barriers to ecosystem functioning Flow extraction Water quality <p>Action Triggers</p> <ul style="list-style-type: none"> Severe downstream impact – water quality 	<ul style="list-style-type: none"> Revegetation with indigenous riparian vegetation (W) Removal/replacement of exotic riparian vegetation (W) Management of aquatic weeds Aquatic habitat condition and connectivity improvement (P,W) Urban water quantity and flow management (I,W) Urban water quality and sediment management (I,W) Increase community capacity for environmental restoration (E)

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Reach Name	Reach Description	Riparian Land Management Category	Reach Values	Reach Threats	Reach management recommendations (Planning, Education, Works, Monitoring, Institutional)
Eastern R2	Concrete lined channel	Revegetation		<ul style="list-style-type: none"> Fully engineered channel – concrete lined Aquatic weed outbreaks (Salvinia; Water Hyacinth) Flow extraction Water quality Urbanisation Lack of community based environment activity <p>Action Triggers</p> <ul style="list-style-type: none"> Severe downstream impacts – water quality; flow alteration through concrete section 	<ul style="list-style-type: none"> Revegetation with indigenous riparian vegetation (W) Management of aquatic weeds
Eastern R3	From concrete lined section to confluence with South Creek	Assisted Regeneration	<ul style="list-style-type: none"> Good riparian vegetation cover Wetland of local significance Rare or threatened river category (Meandering Vertical) Significant vegetation community (Cumberland Shale Plains Woodland; Cumberland River Flat Forest) High public recreation access Significant irrigation water supply Some community based environment activity 	<ul style="list-style-type: none"> Modified / engineered channel High woody weed invasion Aquatic weed outbreaks (Salvinia, Water Hyacinth) Damaging access (stock mainly with some human access damage on public land) Barriers to ecosystem functioning (weirs) Flow extraction Water quality Future urban development will further disrupt natural hydrology <p>Action Triggers</p> <ul style="list-style-type: none"> Rare or threatened river category (Meandering Vertical) Severe downstream impacts (weeds, water quality) 	<ul style="list-style-type: none"> Riparian wetland management Removal/replacement of exotic riparian vegetation (W) Management of aquatic weeds Management of stock impact on waterways (W) Encourage adoption of sustainable land management practices in riparian lands (E) Manage human impacts at public recreation river access points and along foreshores (E,W) Aquatic habitat condition and connectivity improvement (P,W) Urban water quantity / flow management (I) Water quality / nutrient management (I) Increase community capacity for environmental restoration (E)
Ropes R1	Headwaters from Cecil Park on Elizabeth Drive to confined section	Revegetation		<ul style="list-style-type: none"> High woody weed invasion Modified / engineered channel (stormwater structures) Aquatic weed outbreaks (Salvinia; Water Hyacinth) Damaging access (human access points) Barriers to ecosystem functioning Flow extraction Water quality Lack of community based environment activity <p>Action Triggers</p> <ul style="list-style-type: none"> Severe downstream impacts – water quality; weeds. 	<ul style="list-style-type: none"> Revegetation with indigenous riparian vegetation (W) Removal/replacement of exotic riparian vegetation (W) Management of aquatic weeds Manage human impacts at public recreation river access points and along foreshores (E,W) Aquatic habitat condition and connectivity improvement (P,W) Urban water quantity and flow management (I) Urban water quality and sediment management (I,W) Increase community capacity for environmental restoration (E)

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Reach Name	Reach Description	Riparian Land Management Category	Reach Values	Reach Threats	Reach management recommendations (Planning, Education, Works, Monitoring, Institutional)
Ropes R2	Concrete lined channel from Lincoln Rd crossing to the Sydney Water supply pipeline	Revegetation		<ul style="list-style-type: none"> Fully engineered channel – concrete lined Aquatic weed outbreaks (Salvinia; Water Hyacinth) Flow extraction Water quality <p>Action Triggers</p> <ul style="list-style-type: none"> Severe downstream impacts – water quality 	<ul style="list-style-type: none"> Revegetation with indigenous riparian vegetation (W) Management of aquatic weeds
Ropes R3	Sydney water pipeline crossing to start of former ADI site just above junction with South Creek	Assisted Regeneration	<ul style="list-style-type: none"> Good riparian vegetation Rare or threatened river category (Meandering Vertical) Significant vegetation community (Cumberland Shale Plains Woodland; Cumberland River Flat Forest; Castlereagh Shale – Gravel Transition Forest) Identified Flagship Species (<i>Grevillia junipera</i>) Some community based environment activity 	<ul style="list-style-type: none"> Modified / engineered channel High woody weed invasion (Privet) Aquatic weed outbreaks (Salvinia; Water Hyacinth) Damaging access (Humans – bike tracks, 4WD and walking tracks) Barriers to ecosystem functioning Flow extraction Water quality Urban land use impacts (changed hydrology and nutrient and sediment input) <p>Action Triggers</p> <ul style="list-style-type: none"> Rare or threatened river category (Meandering Vertical) Severe downstream impact (weeds and water quality) Severe immediate threat (polluted bed sediments) 	<ul style="list-style-type: none"> Removal/replacement of exotic riparian vegetation (W) Increase community capacity for environmental restoration (E) Management of aquatic weeds (I,W) Manage human impacts at public recreation river access points and along foreshores (E,W) Aquatic habitat condition and connectivity improvement (P,W) Urban water quantity and flow management (I) Urban water quality / nutrient management (I,W)
Ropes R4	Bank confined 2.5km section from start of ADI site to the junction with South Creek	Assisted Regeneration	<ul style="list-style-type: none"> Good riparian vegetation cover Significant vegetation community (Castlereagh Shale-Gravel Transition Forest) 	<ul style="list-style-type: none"> Modified / engineered channel (bank confined section) Aquatic weed outbreaks (Salvinia, Water Hyacinth) Flow extraction Water quality 	<ul style="list-style-type: none"> Management of aquatic weeds Water quantity / flow management (I) Water quality / nutrient management (I) Increase community capacity for environmental restoration (E)

Creeks of Community Concern: Blaxland Creek