

Table 3.41: Summary of actual and anticipated water resource and water quality problems associated with mining operations and mineral processing activities in the Zambezi basin.

Sub-catchment	Gold Mines	Base Metal Mines	Smelters	Small-Scale Mining	Other
Kazungula	-	-	-	-	• Pandamatenga Colliery: minor, localized AMD
Chobe-Linyanti	-	-	-	-	-
Luiana	-	-	-	-	-
Cuando	-	-	-	-	• Localized TSS
Luanginga	-	-	-	-	-
Lungue Bungo	-	-	-	-	• Localized AMD from Muangai Colliery
Luena & Zambezi Headwaters	-	• Localized AMD from Macondo	-	-	• Localized TSS from prospecting activities
Kabompo	-	• Localized AMD from several copper mines, plus Fe, Cu, Co, Ag, Zn, SO ₄ , pH	-	-	• Localized TSS from prospecting activities
Middle Zambezi	-	-	-	-	• Localized TSS from prospecting and small mining activities
Lunga	• By-product of copper mining at Kansanshi and Lunga; some AMD	• Kansanshi: Cu, Co, Au, localized AMD, Fe, SO ₄ , pH	-	-	• Localized TSS from prospecting and mining activities
Upper Kafue	• By-product of copper mining at Komkola, Nchanga, Nkana, Chambishi, Chibuluma, Mufulira and Luanshya • Sakania: some AMD	• Large and very large copper mines contribute: TSS, AMD, Fe, Mn, Cr, Cu, Co, Ni, Ag, Pb, Zn, SO ₄ , pH • Poor tailings management contributes TSS and AMD plus metals (dissolved + susp.) • Kabwe: Pb, Zn, Va, Ag, AMD	• Large copper smelter at Nkana: AMD, Cu, Co, Ag, Pb, Zn, pH • Bwana Mkubwa Refinery: Cu, Co, Zn, Pb • Chambishi Cobalt Refinery: Co, SO ₄ , pH	• Small emerald mines Ndola Rural area: TSS	• Prospecting activities: TSS, Cu, AMD • Reworking of Bwana Mkubwa dumps: TSS, AMD, Cu, Co, pH, Fe, SO ₄ • Ndola limeworks: TSS, pH, Ca
Lower Kafue	• Matala, Dunrobin-Luir: AMD, CN, As	• Nampundwe, Munali, Chongwe, Kamiyobo: AMD, pH, Fe, Mn, SO ₄ , Cu, Ni	• Pyrite plant at Nampundwe: Fe, AMD, SO ₄	• Small amethyst workings: TSS	• Chilanga Cement Works: TSS, Alk. • Lonchinvar: TSS
Kariba (Zambia)	-	• Kabanga, Chisuki: Sn, Ta, U	-	• Small amethyst workings: TSS	• Maamba Colliery, Nkandabwe Colliery: AMD, TSS, pH, Fe • Siavonga, Namakandwe: U, Th, TSS

Chirundu	<ul style="list-style-type: none"> Chumbwe, Chakwenga: CN, Cu, Pb, Zn, As 	<ul style="list-style-type: none"> Star: Pb, Zn, AMD, Fe, SO₄ Chongwe, Cheowa Pamba: Fe, Cu, SO₄, TSS 	-	-	<ul style="list-style-type: none"> Small prospecting activities: TSS
Mulungushi	<ul style="list-style-type: none"> Lusemfwa, Jessie, Serenje: CN, TSS, Cu, pH, As, SO₄ 	<ul style="list-style-type: none"> Mkushi, Kabwe, Sebembere: Cu, Zn, Pb, Va, TSS, pH, SO₄ 	<ul style="list-style-type: none"> Kabwe: Pb, Zn, Va, pH, TSS, SO₄ 	<ul style="list-style-type: none"> Mkushi: Hg, TSS, Ag 	<ul style="list-style-type: none"> Mbolwe: U, Th Small prospecting activities: TSS
Luangwa	<ul style="list-style-type: none"> Sasore: CN, TSS, SO₄ 	-	-	<ul style="list-style-type: none"> Lundazi Aquamarine: TSS Chipata gold: Au, Hg, TSS, SO₄, Pb, Cu, Zn 	<ul style="list-style-type: none"> Small prospecting activities: TSS Mpongo: Pb, Zn Lundazi coal: TSS
Cahora Bassa (Moz.)	-	<ul style="list-style-type: none"> Tete, Ulongue, Fingoe: Fe, TSS Songo: Cu 	-	<ul style="list-style-type: none"> Missale, Zambeze, Cassoca: Hg, Au, TSS, pH, SO₄ 	<ul style="list-style-type: none"> Prospecting activities: TSS, Fe, Mn, SO₄ Ulongue: F, TSS Mphende, Zambeze, Matangua, Moatize Collieries: AMD, TSS, SO₄
Shire (Mal. & Tan.)	-	-	-	<ul style="list-style-type: none"> Mchuchuma (Tan): Hg, TSS, SO₄ Mbamba Coal (Tan): TSS, AMD, SO₄ Dwangwa (Mal): TSS, Alk, Ca, Lisungwe: Hg, TSS 	<ul style="list-style-type: none"> Kangankunde (Mal): U, Th, TSS Mlanje: TSS Matala: AMD, SO₄
Mazowe (Moz.)	-	-	-	-	<ul style="list-style-type: none"> Guro, Luenha: TSS
Lower Zambezi (Moz.)	-	-	-	<ul style="list-style-type: none"> Luenha: Hg, TSS 	<ul style="list-style-type: none"> Zambeze, Luenha: TSS, Fe, Mn
Chamabonda	-	-	-	-	-
Matetsi	-	-	-	-	-
Deka	-	-	-	-	<ul style="list-style-type: none"> Wankie Colliery and pyrite production; Hwange Power station; AMD, Fe, SO₄
Gwayi	<ul style="list-style-type: none"> All mines in the Bubi Greenstone Belt: AMD, Sb, As, Fe, SO₄ 	<ul style="list-style-type: none"> Gothic, Kamativi, Shangani: AMD, Ni, Fe, TSS, pH, SO₄ 	<ul style="list-style-type: none"> Kamativi smelter now defunct 	<ul style="list-style-type: none"> Alluvial gold mining widespread in upper catchment 	<ul style="list-style-type: none"> Pilgrim: Hg
Sebungwe & Lwizilukulu	-	-	-	-	-
Sengwa	-	-	-	-	<ul style="list-style-type: none"> Sengwa Colliery: AMD, Fe, SO₄
Ume	-	-	-	-	-
Sanyati-Munyati	<ul style="list-style-type: none"> All mines in Midlands Greenstone Belt: AMD, Sb, As, Fe, TSS, pH, SO₄ 	<ul style="list-style-type: none"> Ripple Creek, Tank: Fe, AMD, TSS, pH, SO₄, pits Elbas: Pb, Zn Shangani: Ni, AMD, pH, SO₄ 	<ul style="list-style-type: none"> Empress Ni Smelter: Ni Redcliff blast furnaces: Fe 3 Chrome smelters: Cr, TSS, Ph, SO₄ 	<ul style="list-style-type: none"> Alluvial gold mining widespread; Small-scale chrome mining on Great Dyke 	<ul style="list-style-type: none"> Richmond: Hg Cam & Motor dump retreatment: TSS, Hg, CN

Sanyati-Munyati (Continued)		<ul style="list-style-type: none"> Copper Queen, Sanyati, Empress: AMD, Ni, Pb, Cu, Co, Zn, SO₄ 			
Mupfure	<ul style="list-style-type: none"> Gold mines in Chakari and Gadzema areas: AMD, As, CN, TSS, pH, SO₄ 	<ul style="list-style-type: none"> Perseverance: Ni, Cu, SO₄ 	<ul style="list-style-type: none"> Hartley Platinum Smelter: Pt, pH, SO₄, TSS 	-	-
Charara & Nyaodza	-	-	-	-	<ul style="list-style-type: none"> Small prospecting activities: TSS
Rukomeshe & Chewore	-	-	-	-	-
Angwa	-	<ul style="list-style-type: none"> Historical copper mines: AMD, Cu, Ni, TSS, SO₄ 	<ul style="list-style-type: none"> Alaska Copper Smelter 	<ul style="list-style-type: none"> Alluvial gold workings: Hg, TSS, metals Numerous pegmatite workings: TSS 	-
Manyame	<ul style="list-style-type: none"> Magondi Belt: AMD, As 	<ul style="list-style-type: none"> Extensive chrome workings along the Great Dyke: Cr, TSS 	-	<ul style="list-style-type: none"> Alluvial gold workings: Hg, TSS, metals 	-
Musengezi	-	-	-	<ul style="list-style-type: none"> Small-scale chrome workings along Great Dyke: TSS, Cr 	-
Ruya	-	-	-	<ul style="list-style-type: none"> Alluvial gold workings: Hg, TSS, metals 	<ul style="list-style-type: none"> Dimension stone quarries: TSS
Mazowe (Zimbabwe)	<ul style="list-style-type: none"> Harare-Bindura-Shamva Greenstone Belt: AMD, As 	<ul style="list-style-type: none"> Trojan, Madziwa: AMD, As, metals, TSS 	<ul style="list-style-type: none"> Trojan Nickel Smelter 	<ul style="list-style-type: none"> Alluvial gold workings: Hg, TSS, metals 	<ul style="list-style-type: none"> Iron Duke Pyrite: AMD, pH, TSS, SO₄ Dimension stone quarries: TSS
Ruenya	-	<ul style="list-style-type: none"> Inyati: AMD, metals, SO₄ 	-	<ul style="list-style-type: none"> Extensive alluvial gold mining 	<ul style="list-style-type: none"> Dimension stone quarries: TSS
Kayirezi	-	-	-	<ul style="list-style-type: none"> Extensive alluvial gold mining 	-