

Monitoring by visual inspection for river embankments managed by the national government.

Monitoring items

	In normal times	During flooding	Immediately after flooding
River channels	<ul style="list-style-type: none"> ● Deep scours in river bends and downstream of cross-sectional structures, etc. ● Tree coverage ● Sedimentation 		<ul style="list-style-type: none"> ● Deformation of Spur dikes, stream control structures (vane works), etc ● Changes in tree coverage ● Changes in sedimentation
Flood channels, low-flow revetments	<ul style="list-style-type: none"> ● Deformation of the foundations of low-flow revetments 	<ul style="list-style-type: none"> ● Erosion of flood channels ● Difference in water-surface level, eddies and bubbles 	<ul style="list-style-type: none"> ● Erosion of flood channels ● Deformation of low-flow revetments ● Fallen trees in flood channels
Riverside bank slopes, high-water revetments, and levee revetments	<ul style="list-style-type: none"> ● Lawn grass conditions, lawn trampling by people and animals, wheel tracks ● Cracks in bank slopes ● Deformation of anti-erosion structures (revetments, erosion-prevention sheets, etc.) ● Deformation of revetment foundations ● Scours and erosion at the joints between banks and slope roads/stairs ● Holes by moles or other small animals 	<ul style="list-style-type: none"> ● Erosion and cracks in bank slopes ● Deformation of anti-erosion structures (revetments, erosion-prevention sheets, etc.) 	<ul style="list-style-type: none"> ● Erosion and cracks in bank slopes ● Deformation of bank slopes ● Deformation of revetments and their foundations ● Deformation of anti-erosion structures (revetments, erosion-prevention sheets, etc.) ● Deformation (erosion, etc.) around boundary areas between revetments and banks, loss of cover soil
Bank crowns	<ul style="list-style-type: none"> ● Cracks ● Local depressions ● Conditions of paved crown edges 	<ul style="list-style-type: none"> ● Cracks ● Puddles ● Erosion of paved crown edges 	<ul style="list-style-type: none"> ● Cracks ● Puddles ● Erosion of paved crown edges
Landside bank slopes	<ul style="list-style-type: none"> ● Lawn grass conditions, lawn trampling by people and animals, wheel tracks ● Cracks in bank slopes ● Adverse slopes and local depressions in berms (banguettes) ● Scours and erosion at the joints between banks and slope roads/stairs ● Holes by moles or other small animals 	<ul style="list-style-type: none"> ● Deformation and Cracks in bank slopes ● Water leakage around berms ● Muddy state of bank slopes and berms ● Puddles in berms 	<ul style="list-style-type: none"> ● Deformation and Cracks in bank slopes ● Water leakage around berms ● Muddy state of bank slopes and berms ● Puddles in berms
Landside toes of banks	<ul style="list-style-type: none"> ● Surface moisture content ● Local depressions ● Squeezed-out water ● Holes by moles or other small animals ● Deformation of toe protections 	<ul style="list-style-type: none"> ● Deformation and Cracks in bank toes ● Water leakage around bank toes ● Muddy state of bank toes ● Deformation or sinking of toe protections 	<ul style="list-style-type: none"> ● Deformation and Cracks in bank toes ● Water leakage around bank toes ● Muddy state of bank toes ● Squeezed-out water ● Deformation or sinking of toe protections
Toe drains	<ul style="list-style-type: none"> ● Deformation or sinking of drains 	<ul style="list-style-type: none"> ● Leakage or sand volcano from drain joints 	<ul style="list-style-type: none"> ● Leakage or sand volcano from drain joints
Landside areas	<ul style="list-style-type: none"> ● Surface moisture content 	<ul style="list-style-type: none"> ● Sand volcano around bank toes ● Land uplift and subsidence 	<ul style="list-style-type: none"> ● Sand volcano around bank toes ● Land uplift and subsidence ● Sand volcano in paddy fields after harvesting
Areas around sluice gates and other structures	<ul style="list-style-type: none"> ● Deformation or cracks in attached revetments ● Gaps between structures and surrounding banks (subsidence around structures) ● Opening in joints between structures (parapet/wing walls, etc.) 	<ul style="list-style-type: none"> ● Leakage or sand volcano around the joint parts of parapet/wing walls ● Leakage or sand volcano from the joint parts to banks ● Colour of the water in channels in landside areas 	<ul style="list-style-type: none"> ● Leakage or sand volcano around the joint part of parapet/wing walls ● Leakage or sand volcano from the joint parts to banks ● Colour of the water in channels in landside areas