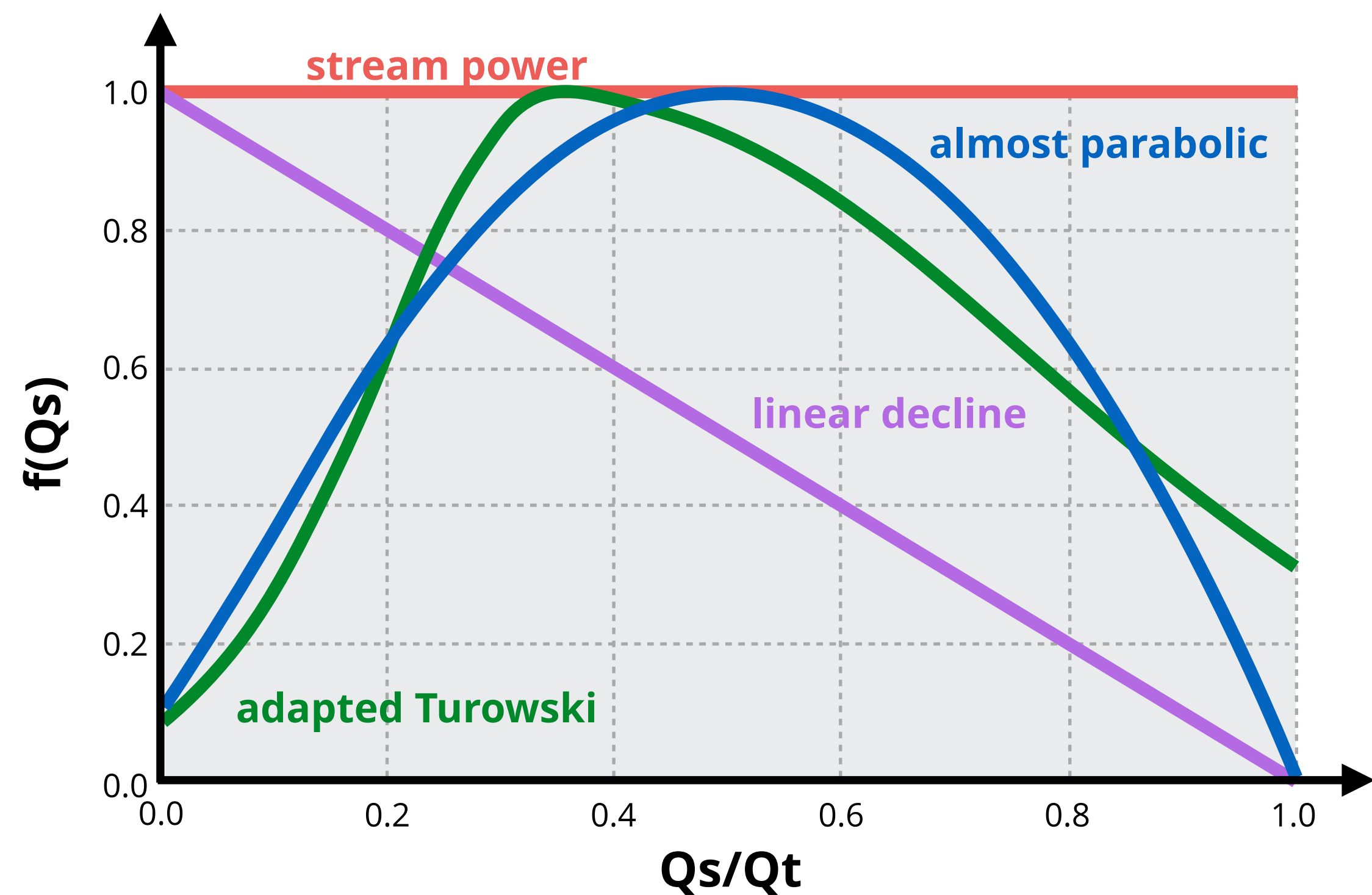
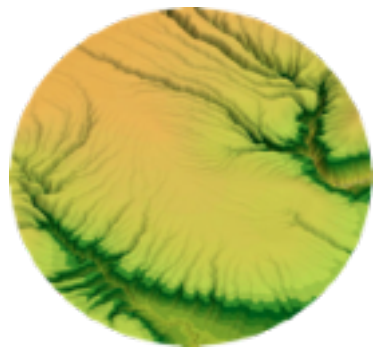


# Detachment (SPL) + tool & cover formulations



adapted from Hobley et al. [2011]

Parameters		Values
$m_t$		1.5
$n_t$		1
$K_t$	$m^{3-2m_t}/\text{yr}$	$2.0 \times 10^{-5}$
$K_{SP}$	$m^{-(2m+1)}/\text{yr}$	$4.0 \times 10^{-5}$
$K_{SA}$	$m^{-0.5}$	$5.0 \times 10^{-2}$
$K_{GA}$	$m^{-1}$	$7.0 \times 10^{-3}$
$m^{1,2,3}$		0.5, -0.25, 0
$n^{1,2,3}$		1, -0.5, 0
$k_w$	$m^{1-3b}/\text{yr}^b$	1
$b$		0.5

<sup>1</sup>detachment-limited stream power model

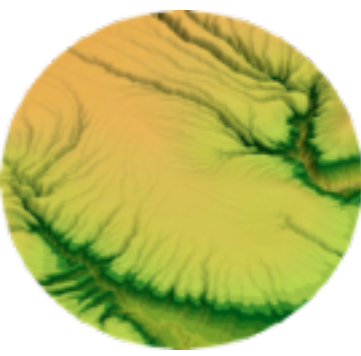
<sup>2</sup>saltation-abrasion model

<sup>3</sup>generalised abrasion model

from Gasparini et al. [2006]

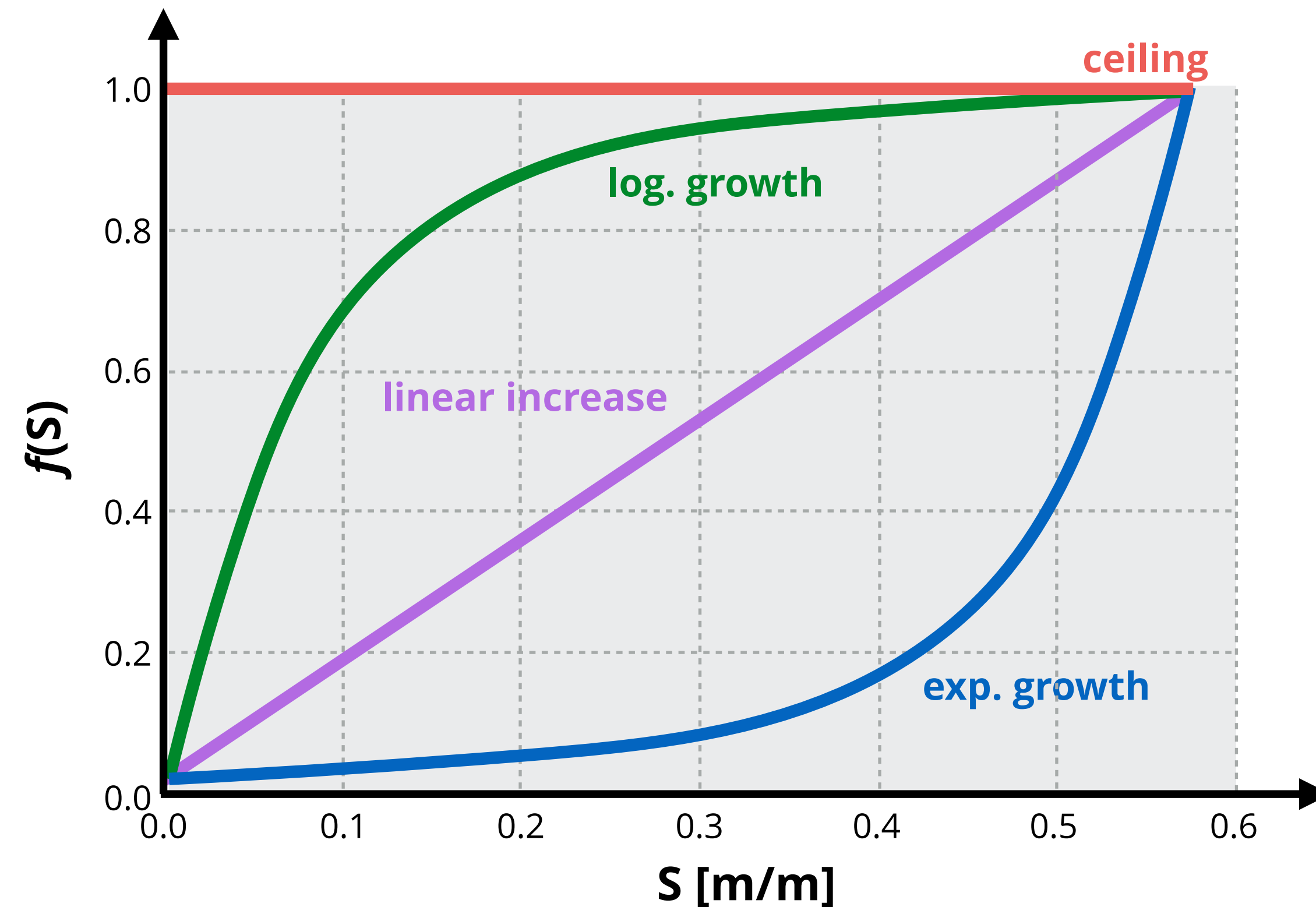
General form:

$I = K P^d f(Qs) (PA)^m S^n$       where:       $f(Qs) = Qs/W (1-Qs/Qt)$



# Detachment + tool & cover formulations

+ Gravel production function based on slope angle



General form:

$$I = K P^d f(Qs) (PA)^m S^n \quad \text{where:} \quad f(Qs) = Qs/W (1 - Qs_b/Qt) \quad Qs_b = Qs f(S)$$