

ROUNDTABLE MEETING ON SUSTAINABLE PALM OIL

RSPO Guidance for the
Management and rehabilitation
of Riparian Reserves
Holly Barclay



SUSTAINABILITY
WHAT'S NEXT?

Riparian reserves (also called riparian buffer zones...) = strips of natural vegetation along rivers, streams and lakes, surrounded by areas of non-natural vegetation such as plantations.





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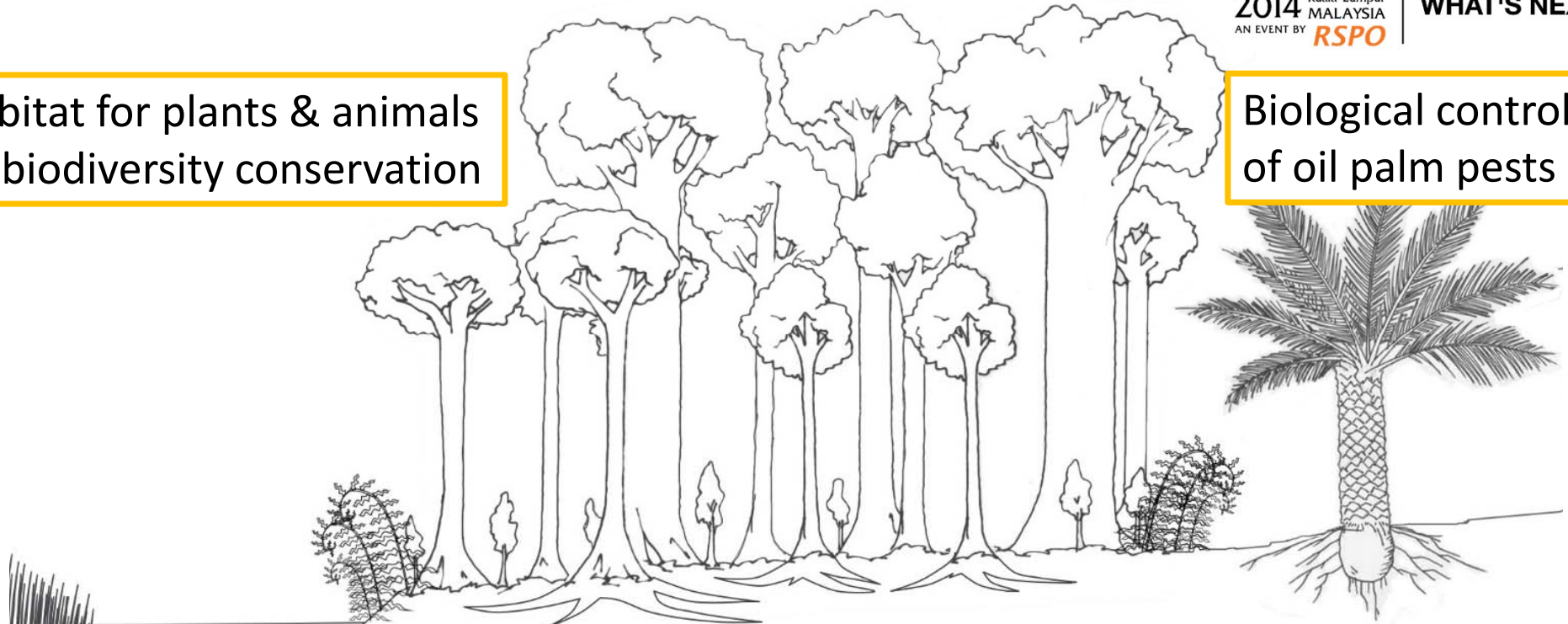
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WHAT'S NEXT?**

Photo: C. Beamish/Wilmar

Carbon sequestration and storage

Habitat for plants & animals
→ biodiversity conservation

Biological control
of oil palm pests



Bank
stabilisation

Filtration of water pollutants
→ help protect water quality

Habitat for
aquatic wildlife,
e.g. fish

- **Compliance with legal and industry standards**

- RSPO (P&Cs 2013) require growers to protect water courses and wetlands. This includes **“maintaining and restoring appropriate riparian and other buffer zones” (Indicator 4.4.2)**.
- Maintaining natural vegetation along waterways is also a **legal requirement** in many countries, including Malaysia, Indonesia, PNG, Brazil.
- Riparian reserves can help plantations comply with **legal water quality standards**.
- Riparian reserves generally qualify as **High Conservation Value Areas (HCVAs)**, e.g.
 - maintenance of water quality in critical situations (HCV4)
 - provision of fundamental supporting services for meeting the basic water and food needs of local communities (HCV5)
 - support rare, threatened, endangered or endemic species (HCV1) and/or ecosystems (HCV3).

- **RSPO compliance requirements**

1. Refer to relevant National Interpretation.
2. For countries without a National Interpretation: All permanent watercourses, wetlands and water bodies shall have naturally occurring local vegetation on both (all) banks. Minimum riparian reserve widths should be determined as follows:

River width (m)	Width of reserve (m)
1-5	5
5-10	10
10-20	20
20-40	40
40-50	50
>50	100
All other permanent water bodies	100

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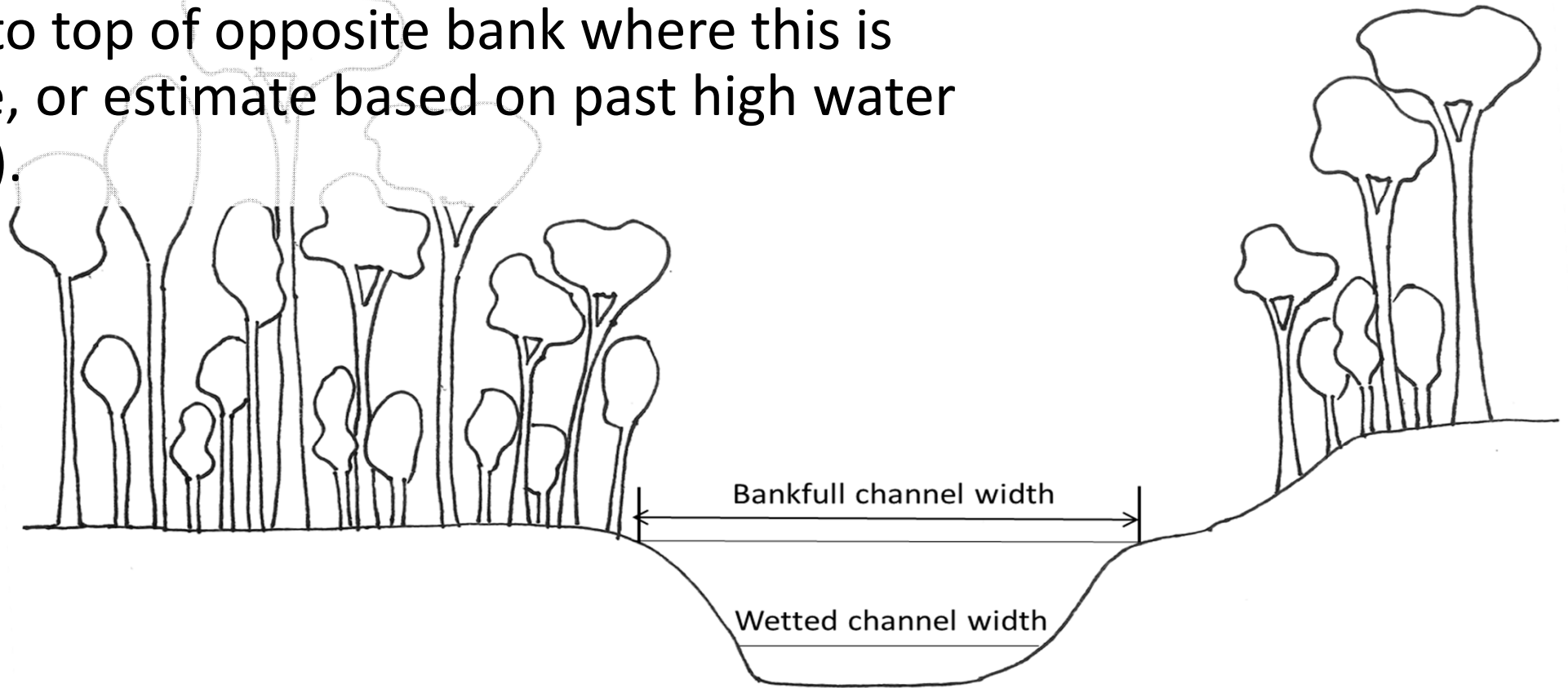
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NB. Size guidelines refer to size on each bank

Photo: C. Beamish/Wilmar

How to determine river width

Bankfull channel width = maximum water level just before a river floods: measure from top of bank to top of opposite bank where this is visible, or estimate based on past high water levels).



Going beyond minimum size requirements may provide benefits in some locations:

- Areas close to waterways which supply the basic water and food needs of local communities (including plantation workers) (HCV5) – generally reserve widths of 15-30m are recommended for protecting water quality (depending on soil type, slope etc).
- Reserves generally need to be much wider to meet terrestrial wildlife requirements than for protecting water quality and aquatic biodiversity, particularly for conserving large-bodied species such as elephants and rhinos.
- Waterways (including small streams <1m wide) which receive surface water run-off from steep and moderately steep cultivated slopes (e.g. 9-25°).



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Photo: WWF Malaysia

Artificial drainage channels vs. natural waterways

- Artificial waterways, e.g. drainage channels do not require a riparian reserve.
- HOWEVER, where they drain directly into rivers, drains can be important for managing water quality.
- Same is true for small streams which may not require a riparian reserve.
- → Recommend reduced spraying within 10-15m of drainage channel edges, where these drain directly into natural waterways.



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Photo: C. Beamish/Wilmar

Establishing riparian reserves in new plantations



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WHAT'S NEXT?

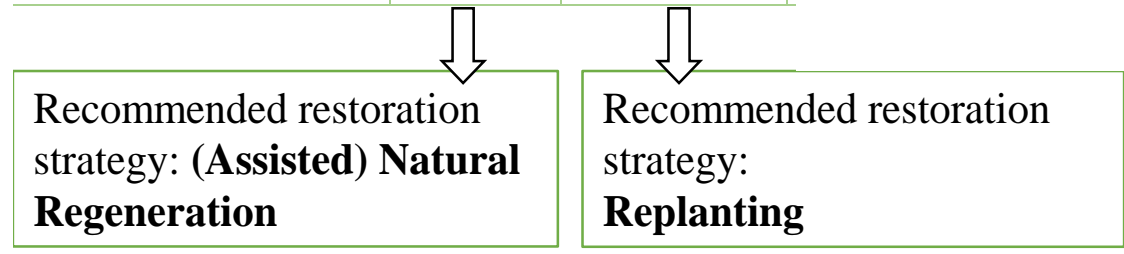
- RSPO P&C 7.1 – independent SEIA:
 - Topographic maps and on-the-ground surveys - identify which areas should be protected as riparian reserves;
 - Social surveys - identify which waterways support the basic needs of local communities. These waterways - including the riparian land alongside and upstream of the community use area(s) - HCV5 reserves and given strong protection accompanied by water quality monitoring.
 - **Accidental clearance** = main threat to riparian reserves in new plantations:
 - Reserve boundaries should be clearly demarcated – boundary markers and signs
 - Location and purpose of riparian reserves should also be communicated in person to workers and contractors involved in land clearing.
 - Ideally – plantation staff need to remain on the ground during land clearing to ensure that these areas are not accidentally cleared.

Key steps for established plantations

1. Determine which waterways require a riparian reserve.
2. Mark location of reserve areas.
3. Habitat assessment → status of existing reserves.
4. Reserves which no longer contain sufficient naturally occurring vegetation will need to be restored...

Natural vegetation cover	High	Low
Seed dispersers	Present	Absent
Soil disturbance	Low	High
Timescale for vegetation recovery	Slow	Medium-Rapid
Resources* available	Low	Medium-High

Restoration of degraded riparian habitats - is the best strategy to allow the area to regrow naturally or to replant with tree seedlings?



Recommended restoration strategy: **(Assisted) Natural Regeneration**

Recommended restoration strategy: **Replanting**

Successful restoration will involve:

- 1. Plant a variety of suitable, native species;**
 - Able to tolerate site conditions
 - Try to choose species based on original vegetation
 - Where possible, consult local experts for advice.
- 2. Maintenance:** most sites will require regular weed removal during the first 18-24 months (or longer) to prevent high seedling mortality.
- 3. Working with local stakeholders** - local communities, forestry and wildlife departments, environmental and social NGOs during planning, implementation and monitoring of restoration projects.

Community tree planting by local students at Musim Mas Sorek Estate in Riau, Indonesia.

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Photo: Musim Mas

Monitoring and adaptive management

- **Operational monitoring** – are management plans are being implemented properly?
- Particularly important during land clearance and replanting to ensure riparian reserves remain intact.
- **Effectiveness monitoring** – are current management plans effective?
- e.g. water quality monitoring, checking survival and growth in newly restored riparian areas.
- **Threat monitoring** – identification of new threats, e.g. encroachment into riparian reserves.
- **Adaptive management** – using monitoring data to adjust management practices if necessary.

Managing threats to riparian reserves

• Encroachment

- The following suggested management strategies may help to alleviate the issue of encroachment into reserves, however there is no strategy which will be effective under all circumstances.
 - Communicating the location and function of riparian reserves – clear signage and verbal communication with local communities
 - Regular monitoring to detect early signs of encroachment
 - Identify drivers of encroachment
 - Record instances of prohibited activities within riparian reserves and show clearly the steps that have been taken to minimise the issue

Guidance for smallholders

- Smallholders are required to comply with national legal requirements for riparian reserves in their country (or, in the absence of national requirements, the RSPO minimum riparian reserve criteria should be applied).
- For smallholders where riparian reserve habitats are heavily degraded and need to be replanted, the assistance of government departments (e.g. forestry or wildlife departments) or local environmental NGOs who have expertise in this area should be sought before restoration to ensure that money is not wasted on unsuccessful restoration programmes.



Still accepting comments/suggestions:
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