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Nilai Penunjuk	Negara	Kedudukan
1.85	Finland	1
1.04	US	12
0.62	Singapore	25
0.09	South Africa	47
-0.4	Zimbabwe	58
-0.26	Kenya	75
-0.59	Thailand	100
-0.3	Malaysia	87

* WATER FOR PEOPLE, WATER FOR LIFE – THE UNITED NATIONS WORLD WATER DEVELOPMENT REPORT by UNESCO-WWAP 2003

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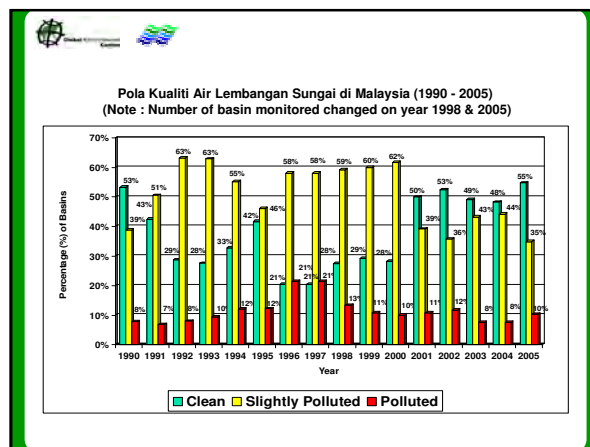
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Pola Kualiti Air Lembangan Sungai di Malaysia (1990 - 2005)
(Note : Number of basin monitored changed on year 1998 & 2005)

Year	Clean (%)	Slightly Polluted (%)	Polluted (%)
1990	53	39	8
1991	43	39	18
1992	51	63	8
1993	28	63	10
1994	33	50	17
1995	42	48	10
1996	21	58	21
1997	21	58	21
1998	28	59	13
1999	29	60	11
2000	28	62	10
2001	50	39	11
2002	53	36	12
2003	48	43	9
2004	56	44	8
2005	55	35	10



Lembangan Sungai	2003	2004	2005
Bersih	59	58	80
Sedikit tercemar	52	53	51
Tercemar	9	9	15
Jumlah	120	120	146

Lembangan Sungai yang tercemar bagi tahun 2005 —

Kedah	Merebok	Johor	Air Balai, Segget, Tebrau, Kempas, Danga, Kaw Pasir Gudang (Tukang Batu)
Pulau Pinang	Juru, Pinang, Bayan Lepas, Jejawi		
Selangor & KL	Buloh, Klang		
Melaka	Merlimau *	Sabah	Sembulan *

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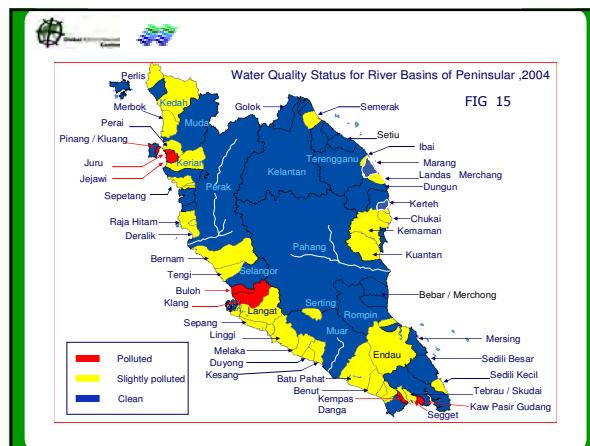
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Water Quality Status for River Basins of Peninsular ,2004

FIG 15

This map illustrates the water quality status across various river basins in Peninsular Malaysia for the year 2004. The basins are color-coded based on their pollution level:

- Polluted (Red):** Includes the Perlis, Merbok, Kedah, Perlis, Juru, Jejuai, Sepetang, Raja Hitam, Deralak, Bera, Tenggi, Buloh, Klang, Langat, Sepang, Linggi, Melaka, Duyong, Kesang, Batu Pahat, Benut, Kampas, and Dangau.
- Slightly polluted (Yellow):** Includes the Muji, Golok, Semerak, Terengganu, Ibai, Marang, Landas, Merchang, Dungun, Kerfah, Chukai, Kemaman, Kuantan, Bebar / Merchong, Mersing, Sedili Besar, Sedili Kecil, Tebrau / Skudai, Kaw Pasir Gudang, Segget, Endau, Rompin, Serling, Pahang, Kelantan, Perak, and Selangor.
- Clean (Blue):** Includes the Pahang, Kelantan, Terengganu, Ibai, Marang, Landas, Merchang, Dungun, Kerfah, Chukai, Kemaman, Kuantan, Bebar / Merchong, Mersing, Sedili Besar, Sedili Kecil, Tebrau / Skudai, Kaw Pasir Gudang, Segget, Endau, Rompin, Serling, Pahang, Kelantan, Perak, and Selangor.

[illegible]

masalah



- Pembangunan yang pesat.....
- Gangguan kitar hidrologi semula jadi...
- Banjir kilat, banjir, kekurangan air dan pencemaran

Rain falls on the desert on the 'faucet channel' above Earth.

masalah dasar

- **Perspektif dan sikap rakyat Malaysia**
- Sungai sebagai saluran pembuangan

pencemaran air

1. PENCEMARAN DARI PUNCA TETAP -

Pencemaran dari punca yang diketahui

- pembuangan sisa dari kilang
- pembuangan sisa dari loji kumbahan
- pembuangan sisa dari sektor penternakan

2. PENCEMARAN BUKAN PUNCA TETAP -

Pencemaran dari sumber yang tidak diketahui

- aktiviti pembangunan tanah
- air larian tercemar seperti tumpahan minyak,
- baja tumbuhan dan lain-lain

sumber pencemaran utama

Industri

- Buangan Industri
- Sedimentasi / kelodak
- Buangan Komersial
- Sisa pepejal

Perumahan

- Buangan Organik
 - Najis manusia dan haiwan
 - Buangan makanan (food waste)-restoran, gerai makanan
 - Bengkel kereta / cuci kereta
 - Minyak & lain-lain

Pertanian

- Pestisid & Baja

BAHAN PENCEMAR

Pelepasan effluen industri tanpa rawatan

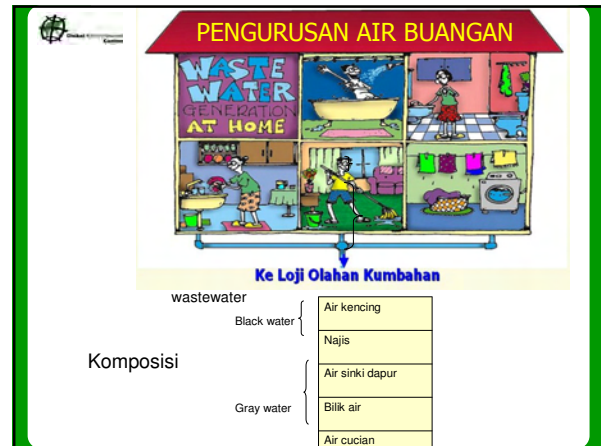


Sisa/effluen organik yang masuk ke dalam sungai



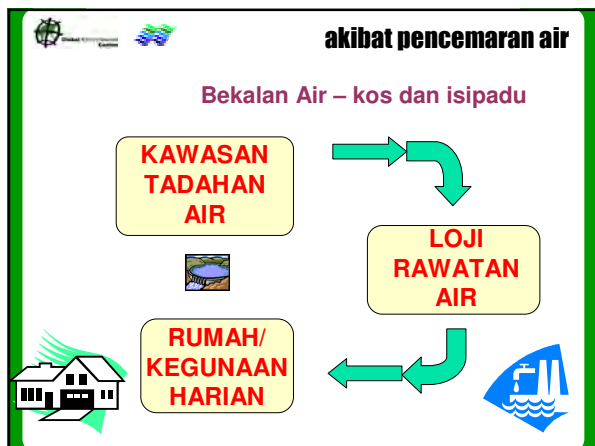
Sisa/effluen organik daripada pasar di Taman Suntex yang masuk ke dalam longkang yang mengalir ke Sungai L.....





Ancaman kepada Kopekbagalan Biologi Sungai

- Pembuangan tumbuhan tebing sungai
- Pelurusan sungai
- Pengubah suaian corak pengaliran
- Halangan kepada pergerakan dan migrasi
- Penurunan kualiti air
- Kemasukan ikan pendatang



akibat pencemaran sungai

- Bekalan air minuman
- **Banjir kilat**
 - Longgang atau parit sumbat
- **Ekologi** – habitat – kemusnahan tapak pembiakan rantai makanan,
 - Pencemaran menyebabkan sungai berbau dan membunuh flora dan fauna
- **Ekonomi** – pembuatan makanan, produktiviti, kos meningkat, mempengaruhi pasaran eksport (green consumerism)
- **Kualiti kehidupan** – kelakuan, disiplin, dan masalah jenayah
- **Kesihatan** – kesejahteraan hidup, produktiviti manusia,
 - Air yang tercemar juga membawa penyakit

Fisiologi air - Warna & Bau

- **AIR BERWARNA HIJAU**
 - terdapat tumbuhan kecil yang dinamakan rumpai, tumbuh di dalam air
- **AIR BERLUMPUR**
 - kandungan kotoran yang tinggi di dalam air menyebabkan ikan sukar untuk bernafas. Anak sungai tersebut memerlukan lebih banyak tumbuhan di sepanjang tebingnya.
- **LAPISAN BERKILAU DI PERMUKAAN**
 - mungkin berlaku tumpahan minyak ke dalam air
 - mungkin sabun dari rumah atau kilang

Fisiologi air - Warna & Bau

- **BUSA ATAU BUIH SABUN**
 - mungkin sabun dari rumah atau kilang mengalir ke dalamnya
- **BERBAU SEPERTI TELUR BUSUK**
 - kumbahan mungkin telah mengalir ke dalamnya
- **LAPISAN KUNING JINGGA/ KEMERAHAN DI PERMUKAAN AIR**
 - mungkin kilang membuang bahan pencemar ke dalamnya

kesimpulan

- Kini sungai adalah tercemar dan kadang kala dianggap sebagai longkang di Malaysia
- Kita dan aktiviti kita merupakan punca kepada pencemaran sungai
- Masalah berpunca dari kita dan kitalah jalan penyelesaiannya