

Australian Government

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Marine Park Authority

# Great Barrier Reef Outlook Report 2009

## I CRI Monaco Jan 2010



# Eight assessments

## - Values



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### VALUES OF THE GREAT BARRIER REEF

What are the current state and trends of the Great Barrier Reef's environmental, economic and social values?

Assessment of  
**biodiversity**

Assessment of  
**ecosystem health**

Assessment of  
**commercial and  
non-commercial use**

2

3

4

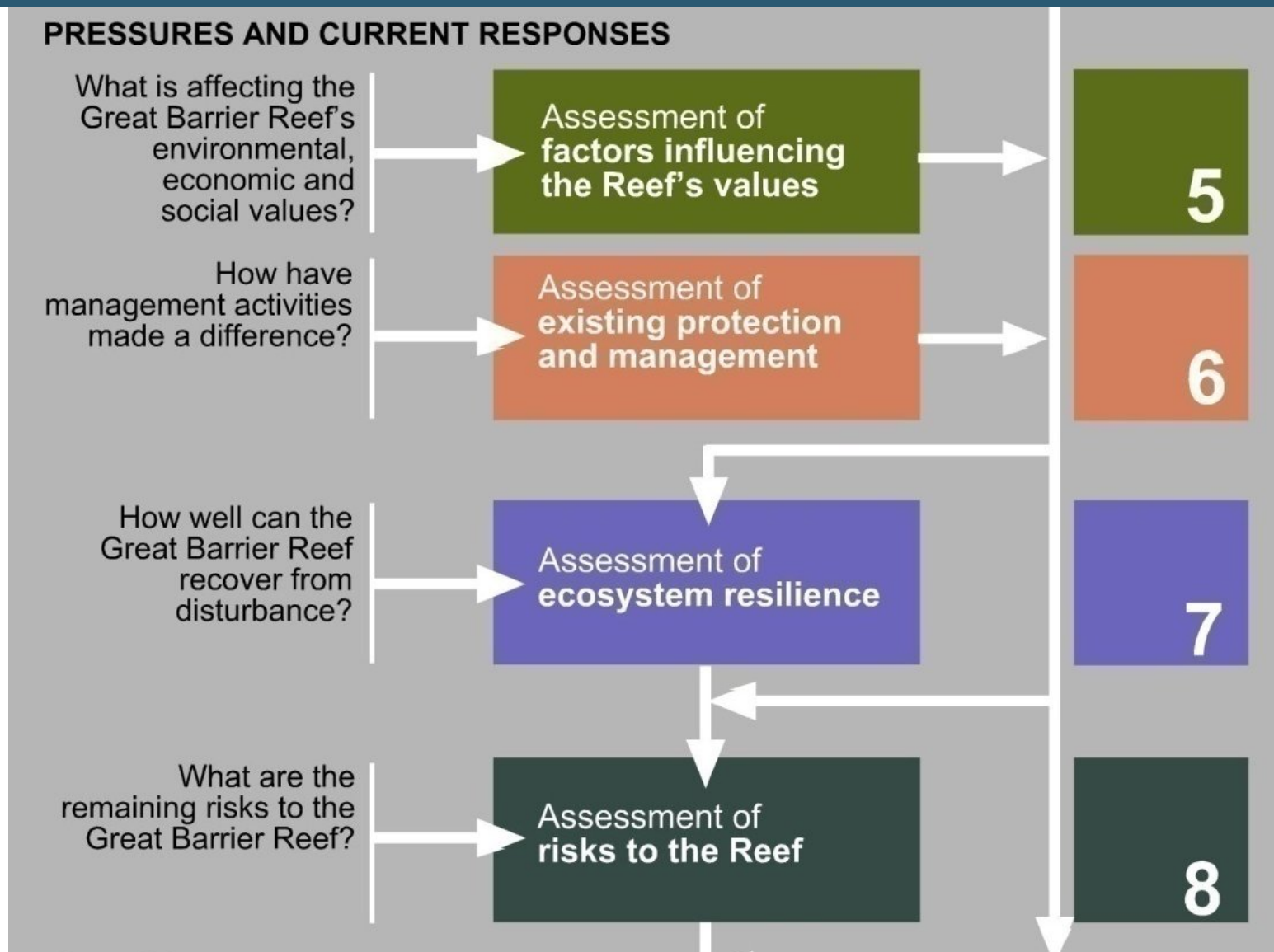
# Eight assessments

## - Pressures and responses



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## VALUES OF THE GREAT BARRIER REEF

What are the current state and trends of the Great Barrier Reef's environmental, economic and social values?

Assessment of biodiversity

2

Assessment of ecosystem health

3

Assessment of commercial and non-commercial use

4

## PRESSURES AND CURRENT RESPONSES

What is affecting the Great Barrier Reef's environmental, economic and social values?

Assessment of factors influencing the Reef's values

5

How have management activities made a difference?

Assessment of existing protection and management

6

How well can the Great Barrier Reef recover from disturbance?

Assessment of ecosystem resilience

7

What are the remaining risks to the Great Barrier Reef?

Assessment of risks to the Reef

8

## OUTLOOK

What does this mean for the Great Barrier Reef's future?

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Assessment of the long-term outlook for the ecosystem

9



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# OUTLOOK

What does this mean for the Great Barrier Reef's future?



# Making an assessment

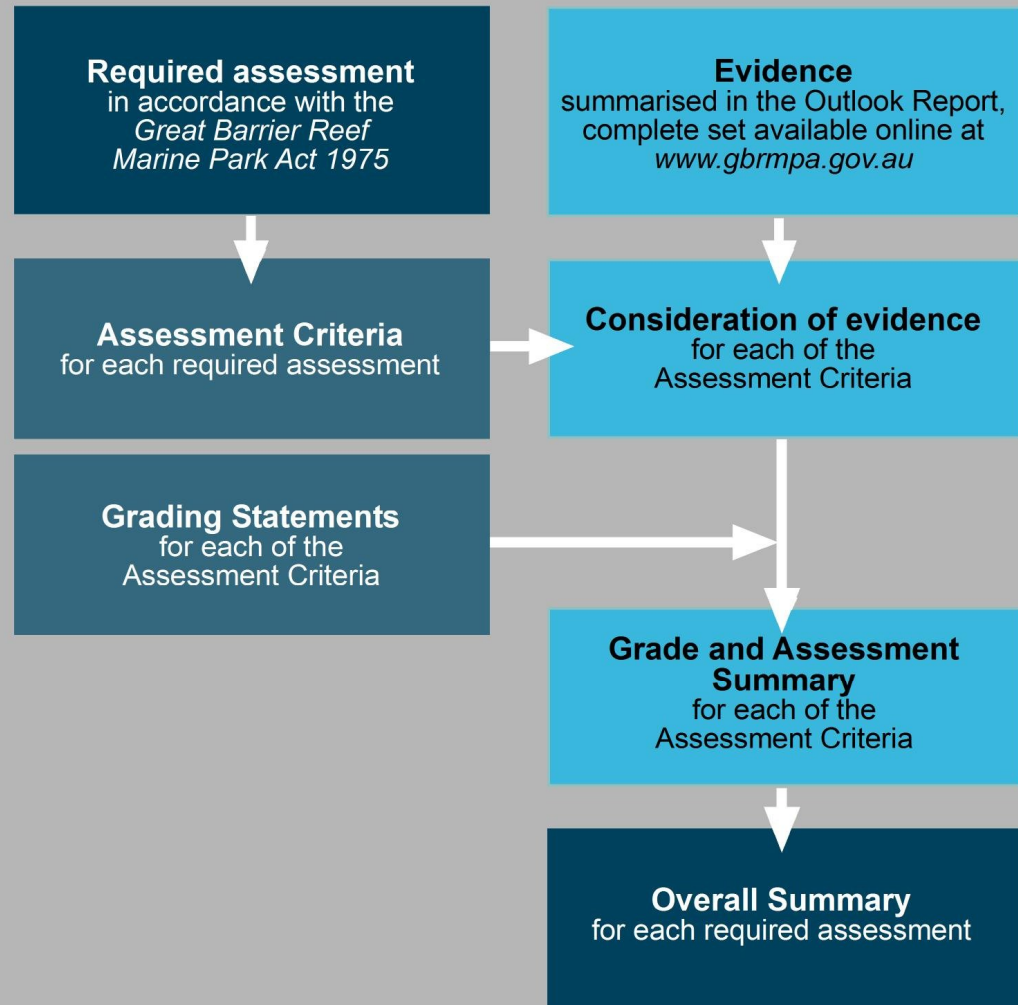


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## Evidence:

- Best available (up to 2008)
  - Research
  - Community recollections
  - Historic records
- Supported by comprehensive online system
- Information gaps are highlighted



# Overall conclusion



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"The outlook for the Great Barrier Reef ecosystem is at a crossroad, and it is decisions made in the next few years that are likely to determine its long-term future.

Unavoidably, future predictions of climate change dominate most aspects of the Great Barrier Reef's outlook over the next few decades.

The extent and persistence of the damage to the ecosystem will depend to a large degree on the amount of change in the world's climate and on the resilience of the Great Barrier Reef ecosystem in the immediate future."

Outlook for the Great Barrier Reef ecosystem	
Assessment Grade: Poor	

# Good news



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The Great Barrier Reef is:

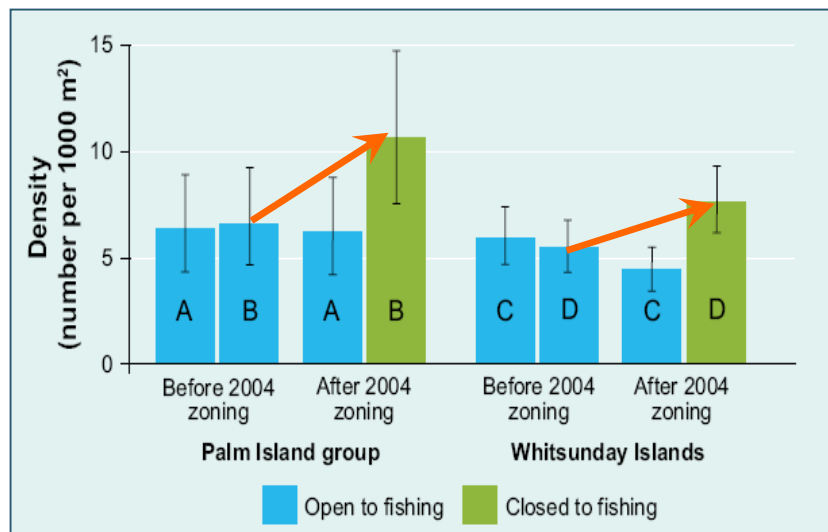
- One of the most diverse and remarkable ecosystems in the world
- One of the healthiest coral reef ecosystems
- A leading example of world's best practice management



# Good news - recovery



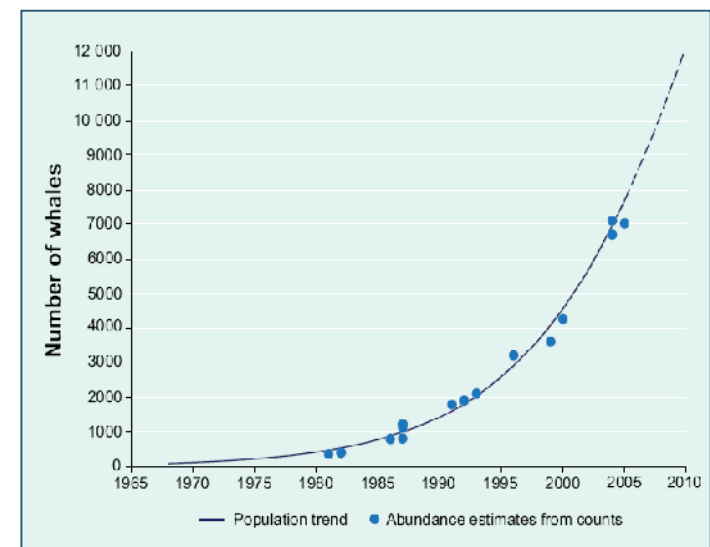
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The number and size of coral trout is increasing rapidly in zones closed to fishing.



Humpback whales appear to be recovering at their maximum rate, 45 years after whaling stopped.

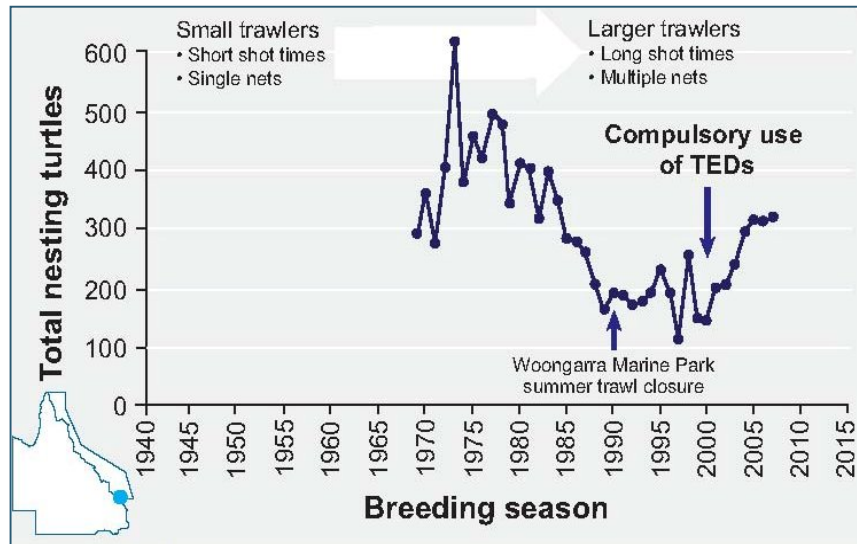




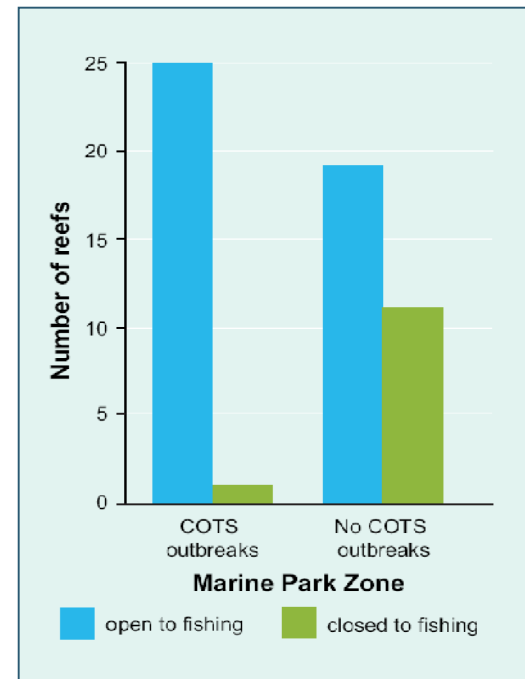
# Good news - recovery



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Trawl turtle excluder devices have arrested the decline in loggerhead turtles.



There are significantly fewer COTS outbreaks in zones closed to fishing.

# Priority issues

## And some bad news



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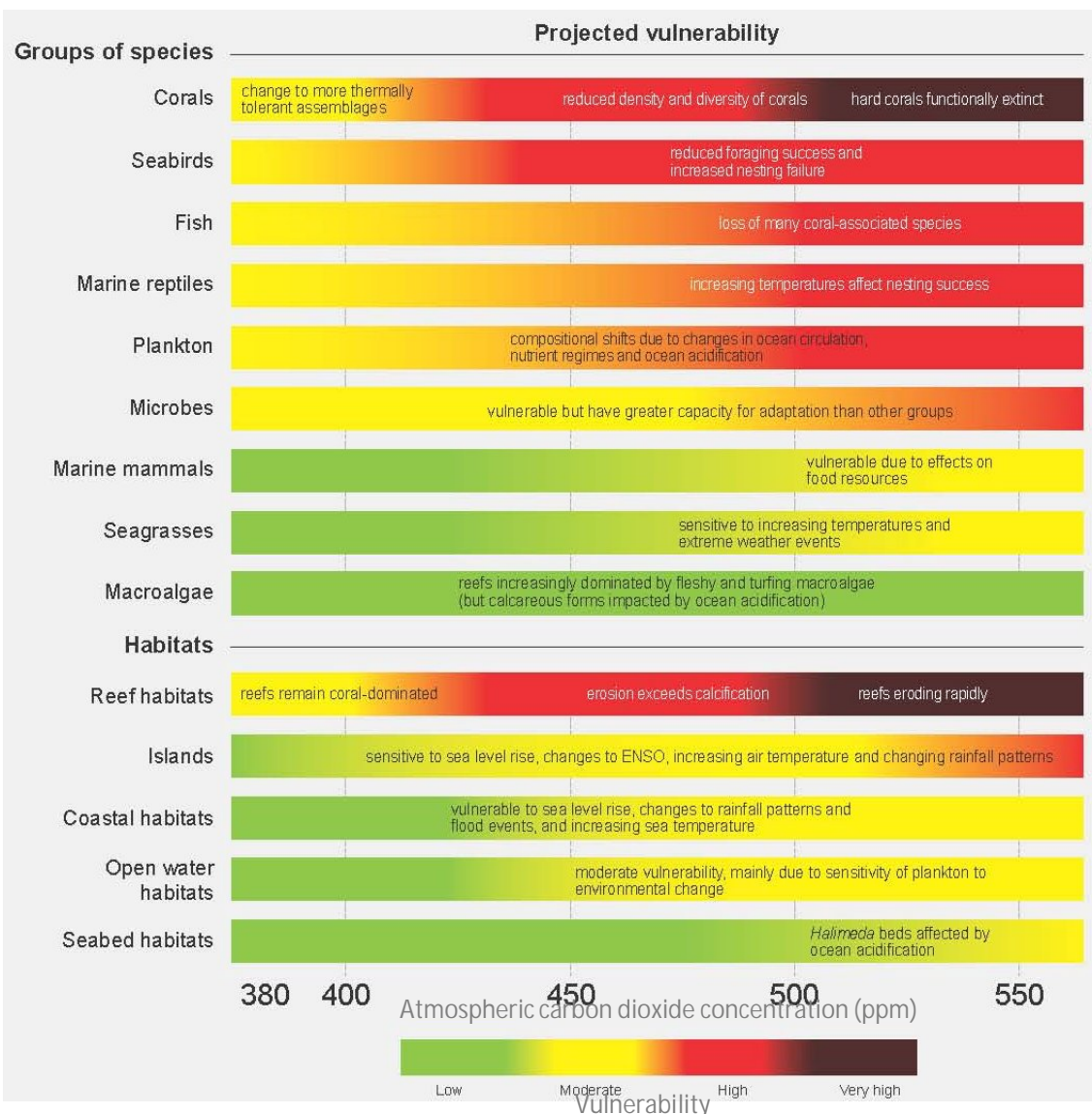
- Climate change
- Continued declining water quality from catchment runoff
- Loss of coastal habitats from coastal development
- A small number of impacts from fishing and illegal fishing and poaching

LIKELIHOOD										
Rare	Unlikely		Possible		Likely		Almost certain			
						Sea level rise	Sea temperature increase	Ocean acidification	Catastrophic	
	Altered ocean currents	Fishing herbivores		COTS outbreaks		Bycatch of species of conservation concern	Nutrients runoff	Pesticides runoff	Major	
	Large oil spill	Large chemical spill						Fishing top predators		
		Exotic species - imported bait	Altered cyclone activity	Grounding large vessels	Poaching species of conservation concern	Marine debris	Clearing coastal habitats	Sediment runoff	Moderate	
			Exotic species - hull fouling	Exotic species - ballast water		Fishing spawning aggregations		Death of discarded catch		
				Exotic species - aquaculture				Illegal fishing		
			Coral disease outbreak	Drupeta outbreak	Traditional hunting	Boat strike	Barriers to river flow	Anchoring on coral	Vessel waste discharge	Minor
						Dredging and spoil dumping		Physical fishing impacts	Fishing low order predators	
								Fishing filter feeders	Fishing detritivores	
						Grounding small vessels	Snorkelling and diving activity	Small chemical spill	Small oil spill	Insignificant
	Low risk	Medium risk	High risk	Very high risk						

# Climate change



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## Highest risks:

- Increasing sea temperature
- Ocean acidification
- Rising sea level

Almost all Great Barrier Reef species will be affected by climate change, some seriously.

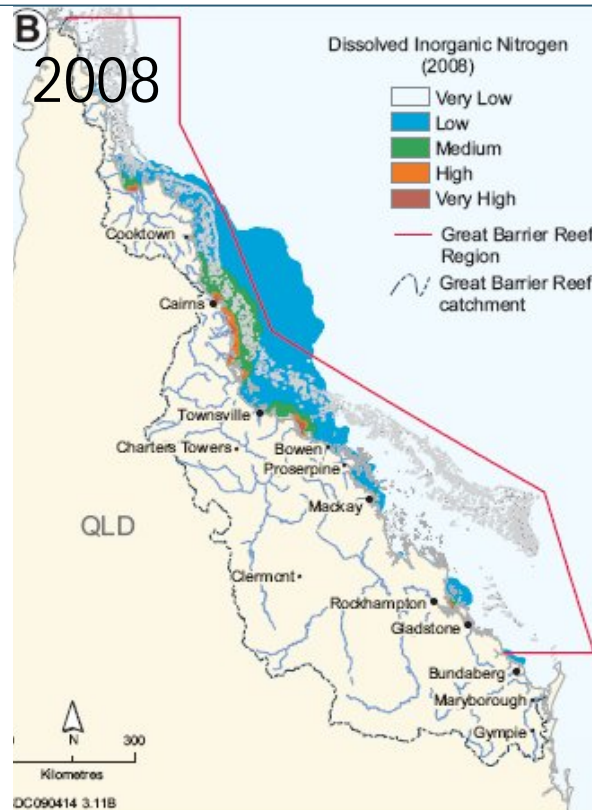
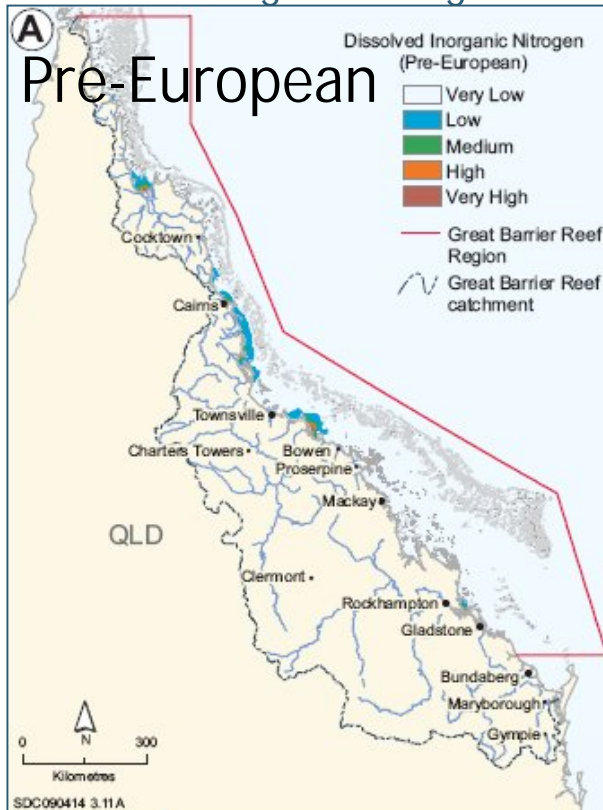
# Catchment runoff



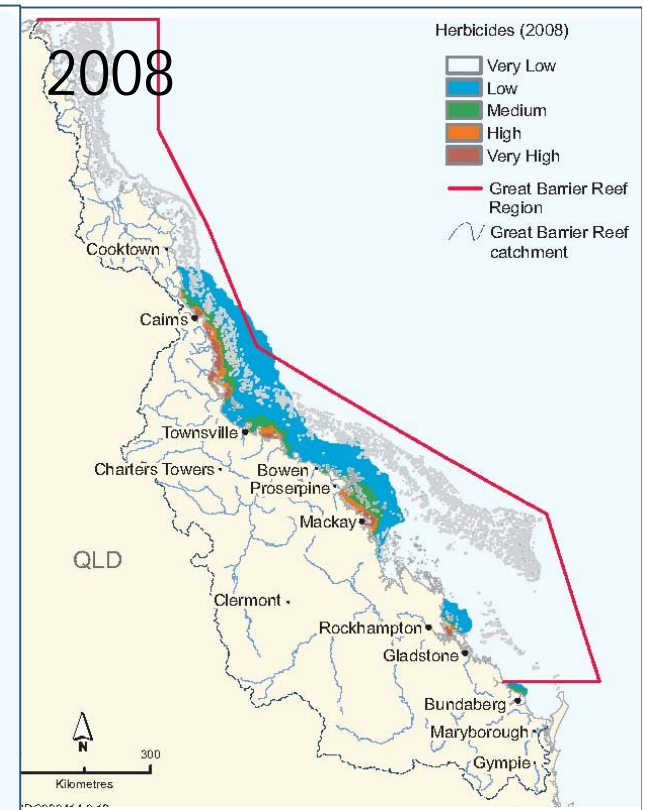
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- Highest risks:
- Nutrients
  - Pesticides
  - Sediments

Dissolved inorganic nitrogen



Herbicides





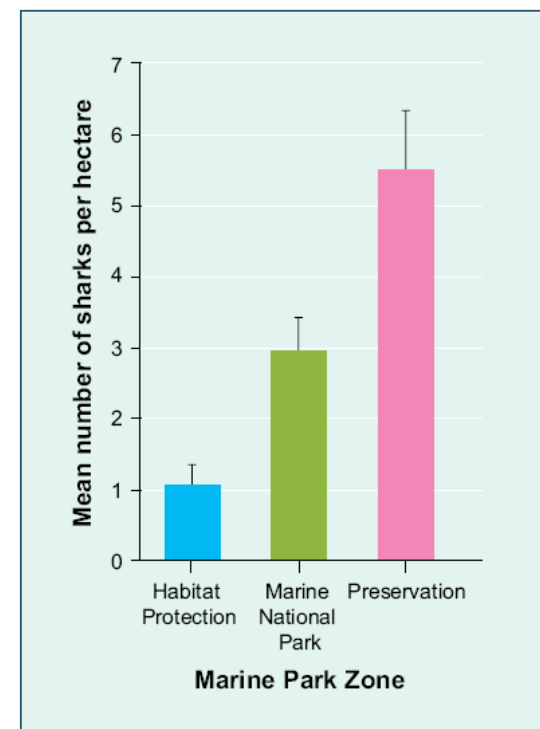
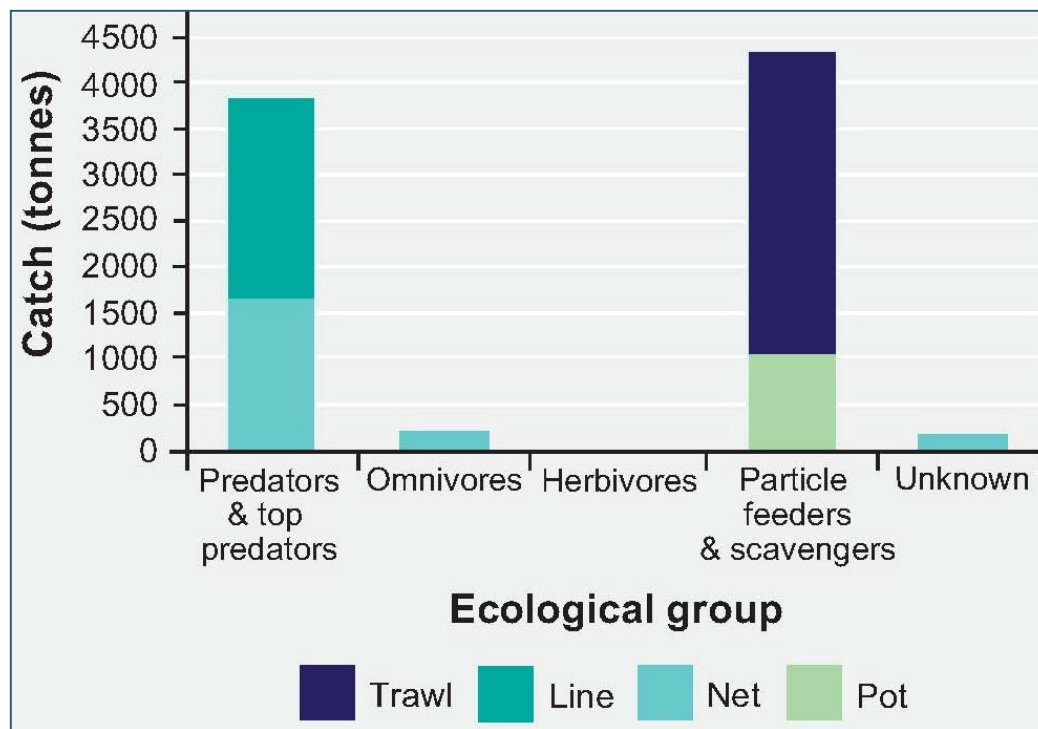
# Direct use - extractive



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## Highest risks:

- Fishing top predators (e.g. sharks)
- Illegal fishing or collecting (foreign & domestic)



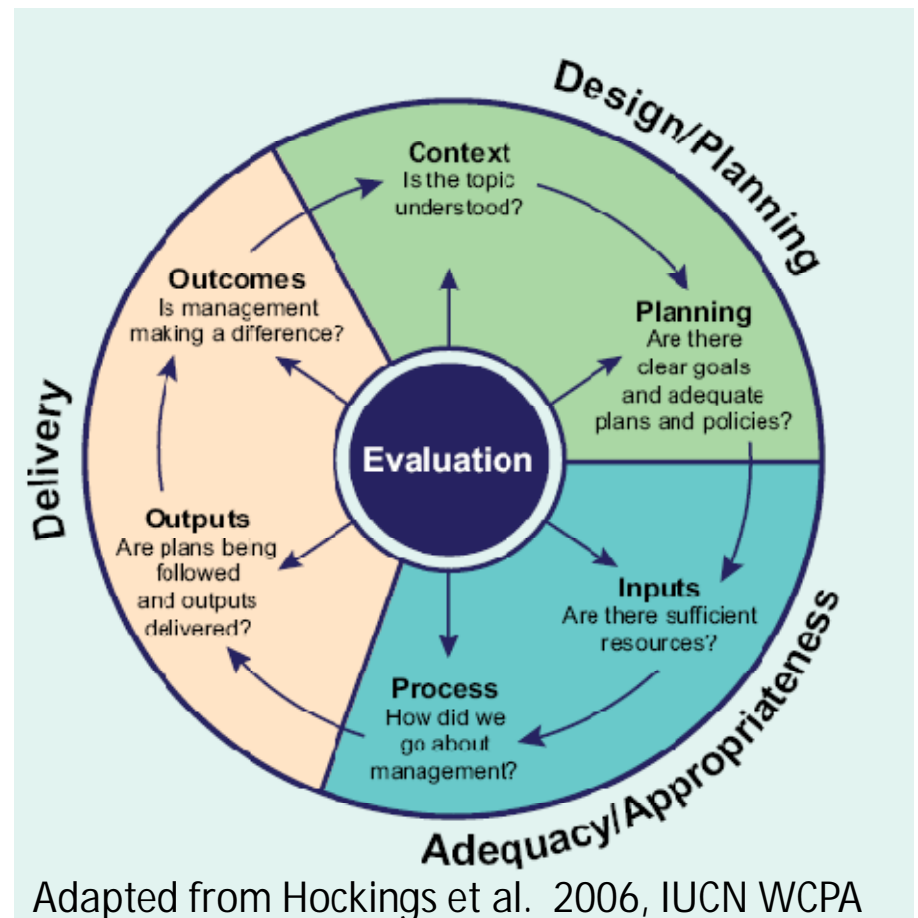
# Existing protection and management



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- All management, not just by GBRMPA
- Independent assessment (by 2 internationally recognised experts)
- High level review of 12 key management topics
- Input from Queensland and Australian Government agencies



# Management topics



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- biodiversity protection
- heritage
- water quality
- climate change
- coastal development
- commercial marine tourism
- defence
- fishing (commercial and recreational)
- ports and shipping
- recreation (not including fishing)
- scientific research
- traditional use of marine resources

Factor	Main origin	Effectiveness of protection and management measures						Overall risk	
		Context	Planning	Inputs	Processes	Outputs	Outcomes		
Climate change*	Global	Climate change							
Catchment runoff (water quality)	Great Barrier Reef catchment	Catchment runoff							
Direct use – extractive	Great Barrier Reef Region	Fishing							
		Traditional use (some)							
		Scientific research (some)							
Coastal development	Great Barrier Reef catchment	Coastal development							
Direct use – non-extractive	Great Barrier Reef Region	Traditional use (some)							
		Recreation (including fishing)							
		Ports and shipping							
		Commercial marine tourism							
		Defence							
		Scientific research (some)							
		Management effectiveness				Level of risk			
		Very good	Good	Poor	Very poor	Very high	High	Medium	Low



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Very high:

- Climate change
- Catchment runoff

High:

- Direct use-extractive

Medium:

- Coastal development

Low:

- Direct use-non-extractive



# Joint Government interim response



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'The Commonwealth and Queensland governments are committed to ensuring the long term protection of the Great Barrier Reef.'

- Responding to climate change
- Addressing catchment water quality
- Effectively managing the Great Barrier Reef
- Managing the coastal zone
- Ecologically sustainable management of fishing
- Research to support management and protection

# Outlook Report



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## GREAT BARRIER REEF OUTLOOK REPORT 2009



### Overview

**What is the Outlook Report and why was it produced?**  
A recommendation of the 2006 Review of the Great Barrier Reef Marine Park Act 1975 was to prepare a five-yearly Outlook Report for the Great Barrier Reef. The aim of the Outlook Report is to provide a regular and reliable means of assessing performance in an accountable and transparent manner.

The Report assesses the current state of the Great Barrier Reef ecosystem's environmental, social and economic values, examines the pressures and current responses and finally considers the likely outlook.

**How were the assessment topics chosen?**  
The assessment topics are the eight assessments required by the Act, with each assessment forming a chapter of the Report. For each of the assessments required under the Act, a set of Assessment Criteria allow an ordered analysis of the available evidence. An overall grade for each Assessment Criterion is provided, based on a series of grading statements. This approach has been developed specifically for the Great Barrier Reef Outlook Report to meet the legislative requirements. It is intended that future Outlook Reports will follow the same process so that changes and trends can be tracked over time.

**How was it developed?**  
The Outlook Report was prepared by the Great Barrier Reef Marine Park Authority using the best available information as at December 2008. No new research was undertaken as part of developing the Report; rather, the evidence used was derived from existing research and information sources. A number of Australian and Queensland Government agencies, researchers, industry representatives, interest groups and the community contributed to the development of the Report.

Two experts in protected area management, monitoring and evaluation, public policy and governance were commissioned to undertake an independent assessment of existing protection and management. Their report forms the basis of the assessment of existing measures to protect and manage the Great Barrier Reef ecosystem.

**Was it independently reviewed?**  
Yes, four reviewers appointed by the Minister for the Environment, Heritage and the Arts independently reviewed the contents of the Report. These reviewers are recognised national and international experts in their fields.

**Are there recommendations?**  
No. While the Outlook Report presents a comprehensive and frank assessment of the current state and likely future of the Great Barrier Reef, it does not offer recommendations for solutions to the issues raised. These responses will come from the Australian and Queensland Governments.

**What is the outlook for the Great Barrier Reef ecosystem?**  
While the Great Barrier Reef is recognised as one of the world's best managed reefs and is likely to survive better under the pressure of accumulating risks than most reef ecosystems, the Outlook Report identifies that the current long-term outlook for the Great Barrier Reef is poor.

Unavoidably future predictions of climate change dominate most aspects of the Great Barrier Reef's outlook over the next few decades. Decisions made in the next several years are likely to determine its long-term future. The future outlook for the Great Barrier Reef will depend to a large degree, on the extent to which climate change is addressed worldwide and on the resilience of the ecosystem in the immediate future.

**What are the key threats to the Great Barrier Reef that have been identified in the Outlook Report?**  
This first Outlook Report identifies climate change, continued declining water quality from catchment runoff, loss of coastal habitats from coastal development and a small number of impacts from fishing and Regal fishing and poaching as the priority issues reducing the resilience of the Great Barrier Reef.

**Does this Report mean that zoning in the Marine Park will change?**  
No. Zoning is one of many management arrangements to ensure the Great Barrier Reef Marine Park is used sustainably. The current Zoning Plan commenced on 1 July 2004 and the Great Barrier Reef Marine Park Act 1975 states that it cannot be reviewed until at least July 2011. There is no planned review of, or statutory requirement to review the zoning of the Great Barrier Reef Marine Park in 2011. The decision to make changes after this time rests with the Australian Government's Environment Minister.

**How effective is the existing management of the Reef?**  
The Great Barrier Reef Marine Park is a multi-use Marine Park and is considered by many to be a leading example of world's best practice management. However, the effectiveness of management is challenged because complex factors that have their origin beyond the Great Barrier Reef Region, namely climate change, catchment runoff and coastal development cause some of the highest risks to the ecosystem. These factors are playing an increasing role in determining the condition and future of the Great Barrier Reef.

Both the Australian and Queensland Government have direct legislative responsibilities to the Great Barrier Reef. Management is achieved through a combination of on-ground actions, working with industries and communities, education and regulation.



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## GREAT BARRIER REEF OUTLOOK REPORT 2009 IN BRIEF

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| 519 | 520 | 521 | 522 | 523 | 524 | 525 | 526 | 527 | 528 | 529 | 530 | 531 | 532 | 533 | 534 | 535 | 536 | 537 | 538 | 539 | 540 | 541 | 542 | 543 | 544 | 545 | 546 | 547 | 548 | 549 | 550 | 551 | 552 | 553 | 554 | 555 | 556 | 557 | 558 | 559 | 560 | 561 | 562 | 563 | 564 | 565 | 566 | 567 | 568 | 569 | 570 | 571 | 572 | 573 | 574 | 575 | 576 | 577 | 578 | 579 | 580 | 581 | 582 | 583 | 584 | 585 | 586 | 587 | 588 | 589 | 590 | 591 | 592 | 593 | 594 | 595 | 596 | 597 | 598 | 599 | 600 | 601 | 602 | 603 | 604 | 605 | 606 | 607 | 608 | 609 | 610 | 611 | 612 | 613 | 614 | 615 | 616 | 617 | 618 | 619 | 620 | 621 | 622 | 623 | 624 | 625 | 626 | 627 | 628 | 629 | 630 | 631 | 632 | 633 | 634 | 635 | 636 | 637 | 638 | 639 | 640 | 641 | 642 | 643 | 644 | 645 | 646 | 647 | 648 | 649 | 650 | 651 | 652 | 653 | 654 | 655 | 656 | 657 | 658 | 659 | 660 | 661 | 662 | 663 | 664 | 665 | 666 | 667 | 668 | 669 | 670 | 671 | 672 | 673 | 674 | 675 | 676 | 677 | 678 | 679 | 680 | 681 | 682 | 683 | 684 | 685 | 686 | 687 | 688 | 689 | 690 | 691 | 692 | 693 | 694 | 695 | 696 | 697 | 698 | 699 | 700 | 701 | 702 | 703 | 704 | 705 | 706 | 707 | 708 | 709 | 710 | 711 | 712 | 713 | 714 | 715 | 716 | 717 | 718 | 719 | 720 | 721 | 722 | 723 | 724 | 725 | 726 | 727 | 728 | 729 | 730 | 731 | 732 | 733 | 734 | 735 | 736 | 737 | 738 | 739 | 740 | 741 | 742 | 743 | 744 | 745 | 746 | 747 | 748 | 749 | 750 | 751 | 752 | 753 | 754 | 755 | 756 | 757 | 758 | 759 | 760 | 761 | 762 | 763 | 764 | 765 | 766 | 767 | 768 | 769 | 770 | 771 | 772 | 773 | 774 | 775 | 776 | 777 | 778 | 779 | 780 | 781 | 782 | 783 | 784 | 785 | 786 | 787 | 788 | 789 | 790 | 791 | 792 | 793 | 794 | 795 | 796 | 797 | 798 | 799 | 800 | 801 | 802 | 803 | 804 | 805 | 806 | 807 | 808 | 809 | 810 | 811 | 812 | 813 | 814 | 815 | 816 | 817 | 818 | 819 | 820 | 821 | 822 | 823 | 824 | 825 | 826 | 827 | 828 | 829 | 830 | 831 | 832 | 833 | 834 | 835 | 836 | 837 | 838 | 839 | 840 | 841 | 842 | 843 | 844 | 845 | 846 | 847 | 848 | 849 | 850 | 851 | 852 | 853 | 854 | 855 | 856 | 857 | 858 | 859 | 860 | 861 | 862 | 863 | 864 | 865 | 866 | 867 | 868 | 869 | 870 | 871 | 872 | 873 | 874 | 875 | 876 | 877 | 878 | 879 | 880 | 881 | 882 | 883 | 884 | 885 | 886 | 887 | 888 | 889 | 890 | 891 | 892 | 893 | 894 | 895 | 896 | 897 | 898 | 899 | 900 | 901 | 902 | 903 | 904 | 905 | 906 | 907 | 908 | 909 | 910 | 911 | 912 | 913 | 914 | 915 | 916 | 917 | 918 | 919 | 920 | 921 | 922 | 923 | 924 | 925 | 926 | 927 | 928 | 929 | 930 | 931 | 932 | 933 | 934 | 935 | 936 | 937 | 938 | 939 | 940 | 941 | 942 | 943 | 944 | 945 | 946 | 947 | 948 | 949 | 950 | 951 | 952 | 953 | 954 | 955 | 956 | 957 | 958 | 959 | 960 | 961 | 962 | 963 | 964 | 965 | 966 | 967 | 968 | 969 | 970 | 971 | 972 | 973 | 974 | 975 | 976 | 977 | 978 | 979 | 980 | 981 | 982 | 983 | 984 | 985 | 986 | 987 | 988 | 989 | 990 | 991 | 992 | 993 | 994 | 995 | 996 | 997 | 998 | 999 | 1000



**Australian Government**

**Great Barrier Reef  
Marine Park Authority**

Thank you

# Summary - management effectiveness



Australian Government

Great Barrier Reef  
Marine Park Authority

- Biodiversity Many protection measures (e.g. zoning plans) making a difference; no overarching framework to guide and coordinate management actions.
- Climate change Broad threats understood and management emphasis on adaptation and improving resilience.
- Coastal development Lack of integrated planning, resources and enforcement is compromising protection.
- Commercial marine tourism Coordinated and professional management ensures a sustainable industry that contributes to management.
- Defence Thorough assessment, coordination and planning mean that activities are well managed.
- Fisheries Lack of information & coordination and variable uptake of best practice management is limiting effectiveness.



# Summary - management effectiveness



Australian Government

Great Barrier Reef  
Marine Park Authority

- Heritage Strong awareness of values; protection arrangements in place.
- Shipping Comprehensive management and coordination has minimised incidents. Ports Natural values appear to be protected; lack of overall strategic planning.
- Recreation Management is generally indirect and coordination is lacking.
- Research Activities environmentally sustainable; enhancing community understanding.
- Traditional use Improvements being made, including joint resource use agreements, but progress is slow.
- Water quality Substantial resources being provided, but progress is slow & patchy.