FIGURE 18
Government management funding outlays

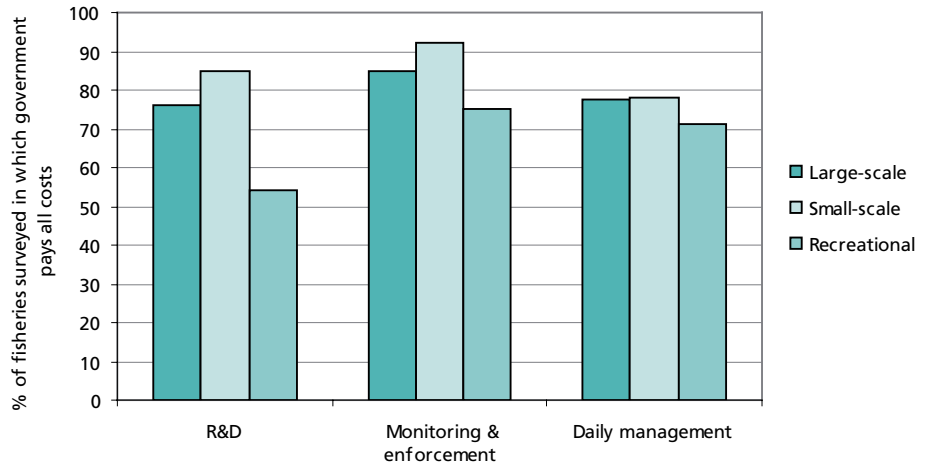
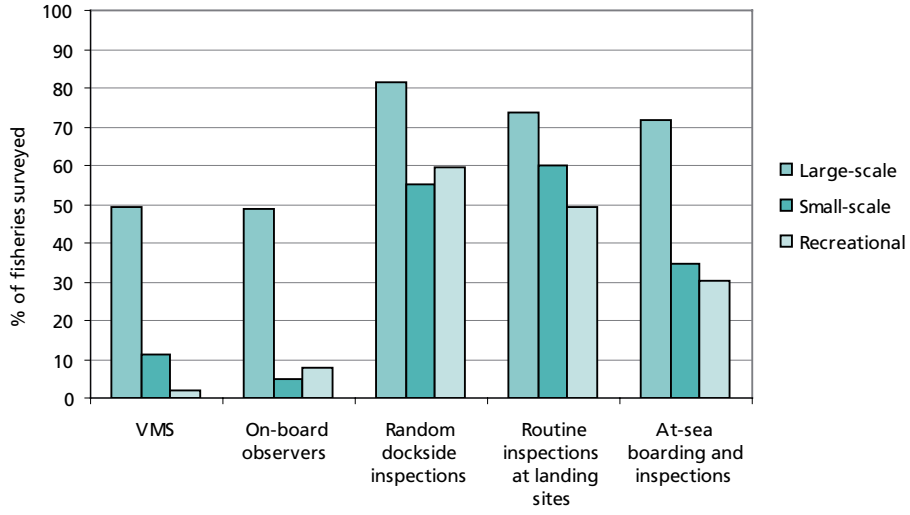


FIGURE 19
Compliance and enforcement mechanisms in use in top three fisheries



R&D in the recreational fisheries, the full funding of these costs by the government tended to be equally high across the three sub-sectors (Figure 18).

Monitoring and enforcement budgets reportedly increased in approximately 50 percent of the large-scale fisheries; however, budgets decreased within about one third of the large-scale fisheries. Corresponding budgets increased in fewer fisheries in the other two sub-sectors (41 and 36 percent, respectively) and, as in the large-scale fisheries, decreased in about one third of the fisheries. Wide-spread use of various monitoring and enforcement mechanisms was reported throughout the large-scale fisheries; contrasted with a dependence on inspections within the small-scale and recreational fisheries (Figure 19). This reported lack of monitoring and enforcement within the small-scale sub-sector raises the question of the effectiveness of management tools and regulations reported above. The limited use (about 50 percent) of VMS and on-board observers within the large-scale sector also points to potential weak links within fisheries management for these fisheries.

FIGURE 20
Fisheries management cost recovery sources in national legislations

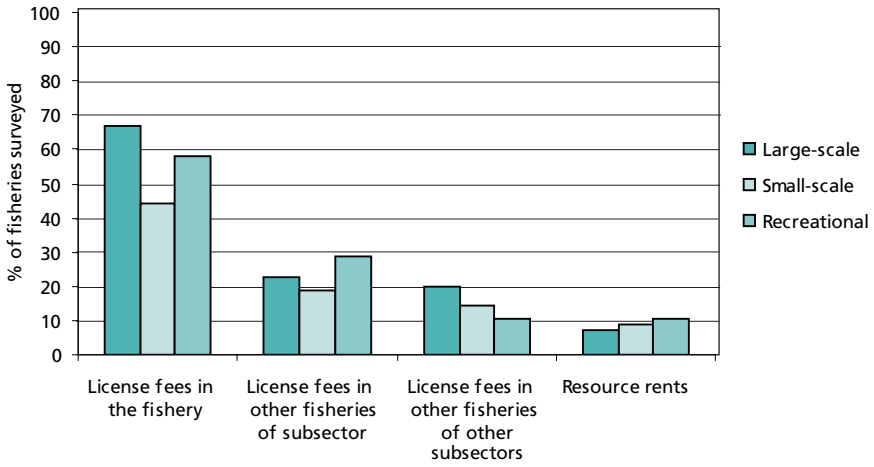
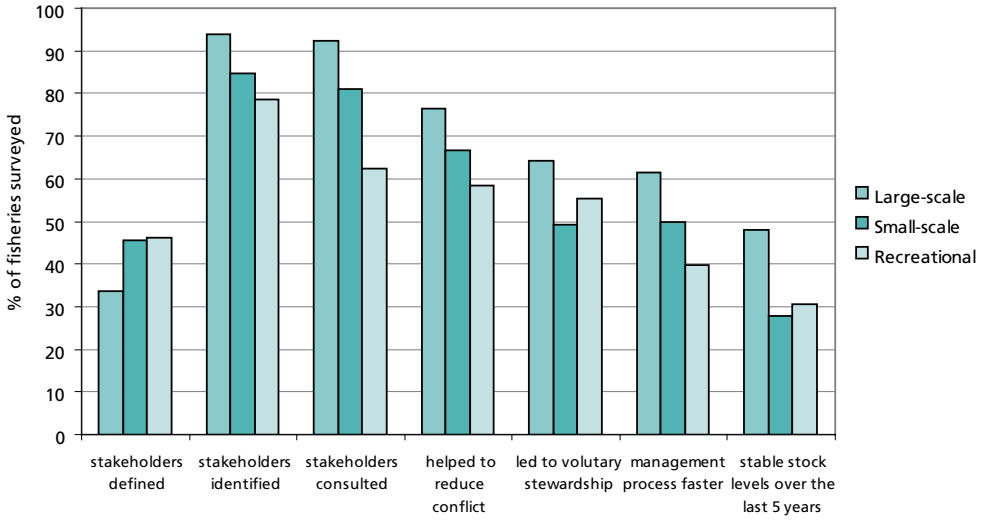


FIGURE 21
Participatory mechanisms and impacts



Fisheries management cost recovery mechanisms (Figure 20), other than license fees, were uncommon throughout thee three fisheries sub-sectors' legislations.

Participatory mechanisms and conflict management within the largest fisheries

Including stakeholders into the fisheries management process is a basic tenet of the FAO Code of Conduct for Responsible Fisheries (the Code [FAO, 1995]) in part to reflect multiple objectives, to define the roles and responsibilities within each fishery and to foster compliance with any agreed upon management measures.

Although legal or formal definitions of those having an interest in the use and management of fisheries resources were not common, efforts had been made in most fisheries across the three sub-sectors to identify such stakeholders (Figure 21). In most cases, it was felt that arrangements had been made to consult these stakeholders and to work with them on the management of these fisheries; however, these sentiments were less strong within the small-scale and recreational sub-sectors than in the large-scale sub-sector.

FIGURE 22
Sources of conflicts

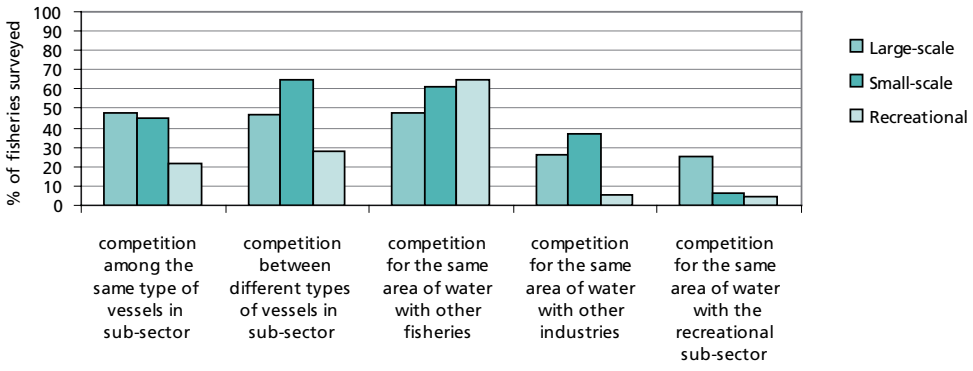
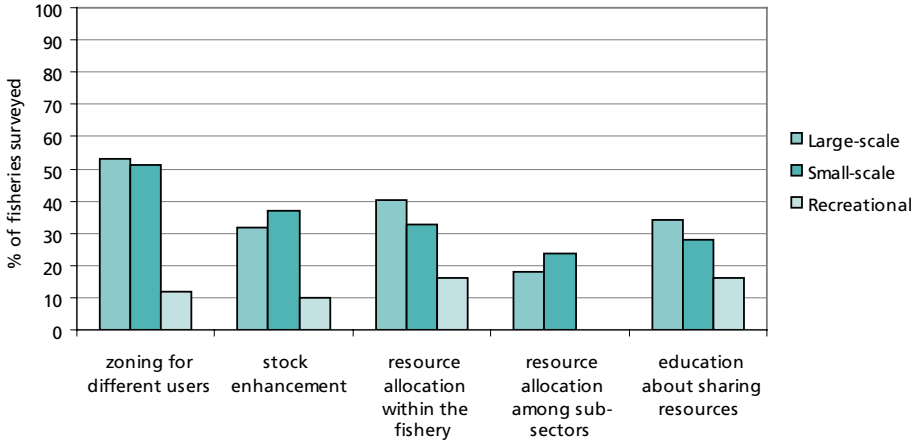


FIGURE 23
Conflict resolution methods

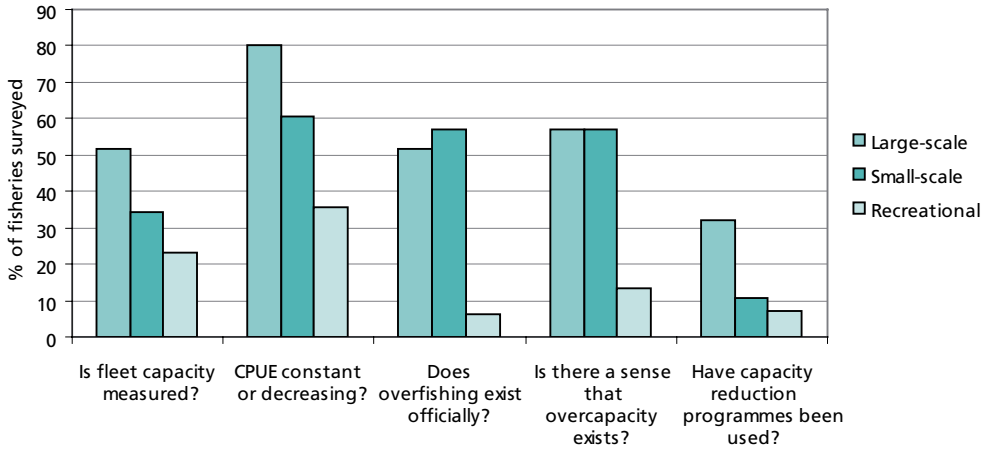


If stakeholders were part of the fisheries management decision-making process, the participatory approach had led to a reduction in conflict within the fisheries and, in at least half of the fisheries, created incentives and reasons for stakeholders to voluntarily practice "responsible" fisheries stewardship. The involvement of stakeholders tended to speed up the management process within the large-scale sub-sector but not necessarily within the small-scale sector and the recreational sub-sectors and the attainment of stable stocks was not automatically associated with stakeholder involvement.

Although participatory approaches to management assisted in the reduction of conflict within and among the fisheries, there remained significant levels of conflict throughout the three sub-sectors (71, 71, and 63 percent of the fisheries, respectively). Conflict within the large- and small-scale sectors was often caused by competition between different vessels categories or with other fisheries; while conflict within the recreational sub-sector tended to arise from competition with all other uses for the same area of water (Figure 22).

Conflict resolution processes were used on average over half of the large-scale and small-scale fisheries and within a over a third of the recreational fisheries. These processes included zoning for specific users, stock enhancement, resource allocation between and among the fisheries, and educational methods to sensitize users regarding the multiple-use nature of certain resources (Figure 23). There was little variation among the large-scale and small-scale sub-sectors in their preferences of conflict resolution methods and very little use of these methods in the recreational sub-sector.

FIGURE 24
Fishing capacity indicators



Fleet capacity management within the largest fisheries

It is commonly accepted that excessive fishing capacity contributes to overfishing, the degradation of marine fisheries resources, the decline of food production potential, and significant economic waste. Therefore, as part of the implementation of the Code, countries have been urged to implement the International Plan of Action (IPoA) for the Management of Fishing Capacity (FAO, 1999). The first step in managing fishing capacity is to establish the current level of fishing activity within fisheries and to analyse each fishery for signs of excessive fishing inputs and overcapitalization. The second step would entail the preparation and implementation of national plans to effectively manage fishing capacity and to establish immediate actions for fisheries requiring urgent measures.

Within the Pacific Ocean, only in the large-scale sub-sector was fleet capacity measured in more than half the fisheries (Figure 24). Capacity measurement within the small-scale and recreational sub-sectors was often not undertaken. In addition, although there was either officially or a "sense" that overcapacity existed within at least half of the large-scale and small-scale fisheries, very few capacity reduction programmes were put into place to adjust for the levels of effort in these fisheries.

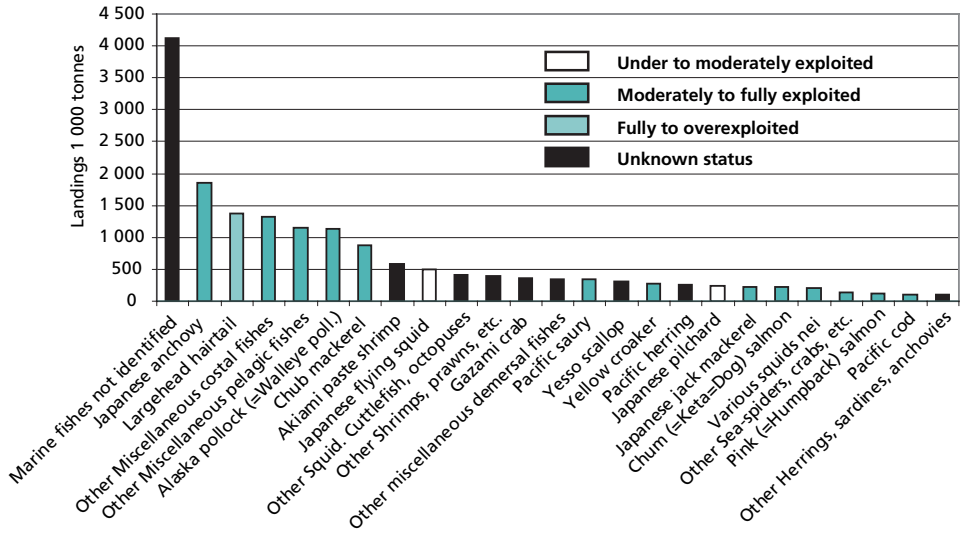
When put into place, the method of preference for reducing capacity levels was the purchase of fishing licenses from the fishery followed by a less-used approach of buying out fishing vessels licensed to operate in the fisheries. It was felt that license removal was an efficient means in immediately reducing any excess fishing capacity; while vessel buyouts were considered much less effective. In addition, these initial license removals, when supported by ongoing license purchases were often felt effective for ensuring that any excess fishing capacity did not return.

Funding for such capacity reduction programmes was generally supported through government funds but several instances occurred in which such programmes were paid for by participants within the fishery itself (55 percent of large-scale and 33 percent of small-scale fisheries) or, occasionally, by participants within other fisheries.

STATUS OF STOCKS IN THE PACIFIC OCEAN

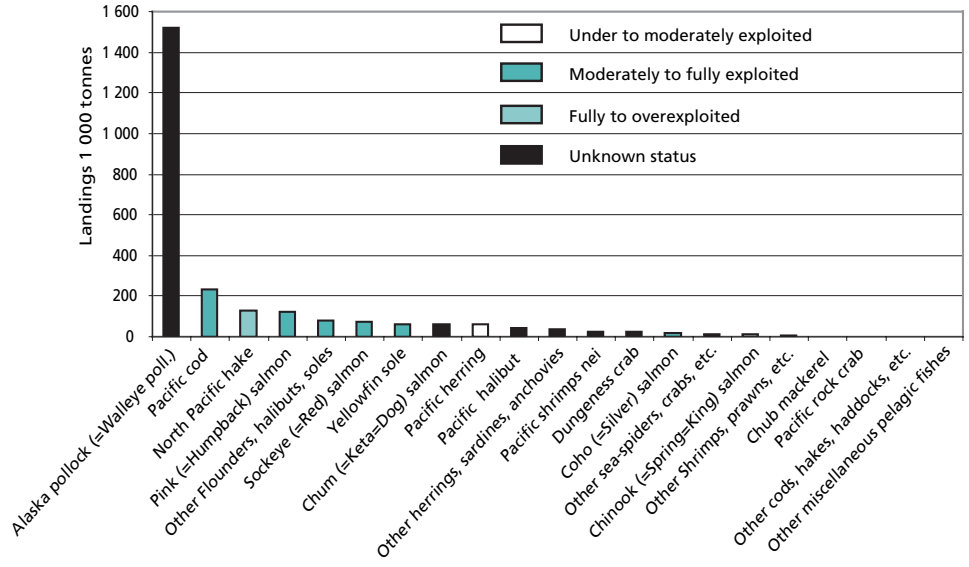
In 2005, the FAO published its review of the state of the world's marine fishery resources based on stock assessments and other complementary information available through 2004 (FAO, 2005). For the 181 stocks or species groups of the Pacific Ocean for which there was adequate information to evaluate the state of the resources, 77 percent were determined to fall within the range of moderately-fully exploited to

FIGURE 25
2002 Landings and stock status of 25 species landed in the Northwest Pacific



Source: FAO, 2005

FIGURE 26
2002 Landings and stock status of 21 species landed in the Northeast Pacific

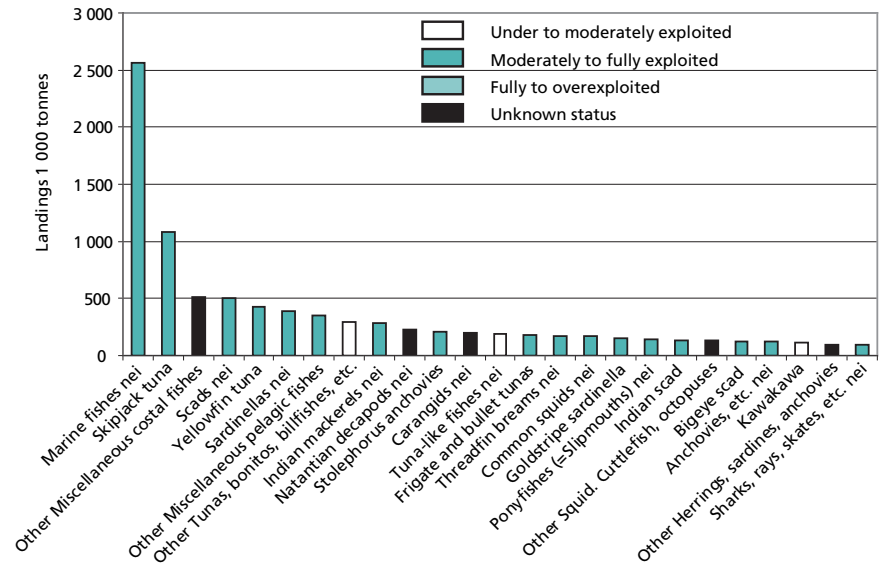


Source: FAO, 2005

overexploited/depleted (Appendix 2).[11] These levels signal little room for further expansion, in addition to the possibility that some, if not most, stocks might already be overexploited. One should also note the number of stocks for which it has not been possible to determine stock status (Figures 25-30).

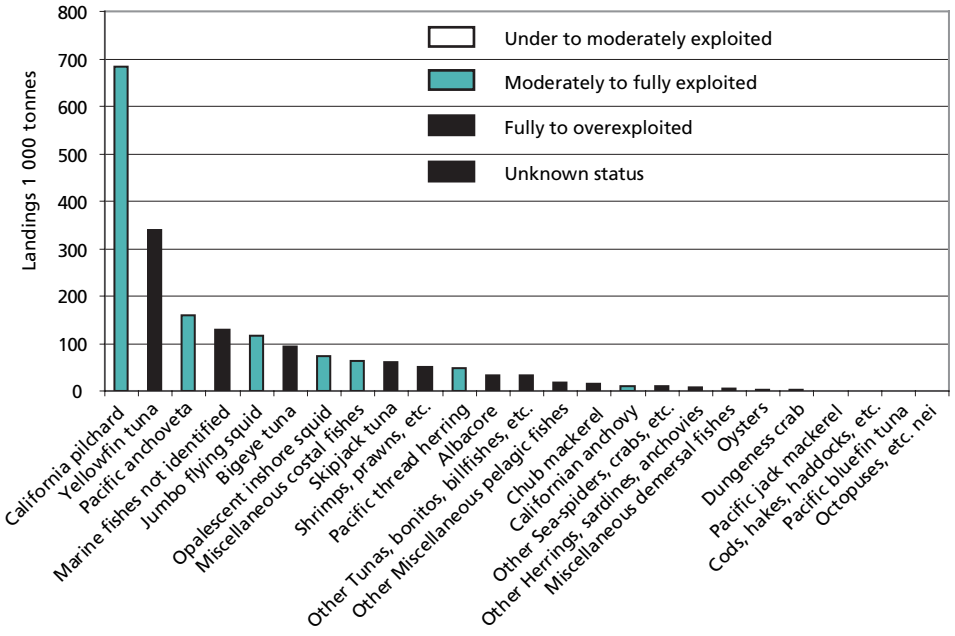
[11] **Moderately exploited** – exploited with a low level of fishing effort; believed to have some limited potential for expansion in total production. **Fully exploited** – operating at or close to an optimal yield level with no expected room for further expansion. **Overexploited** – exploited at above a level which is believed to be sustainable in the long term, with no potential room for further expansion and a higher risks of stock depletion/collapse.

FIGURE 27
2002 Landings and stock status of 25 species landed in the Western Central Pacific



Source: FAO, 2005

FIGURE 28
2002 Landings and stock status of 25 species landed in the Eastern Central Pacific

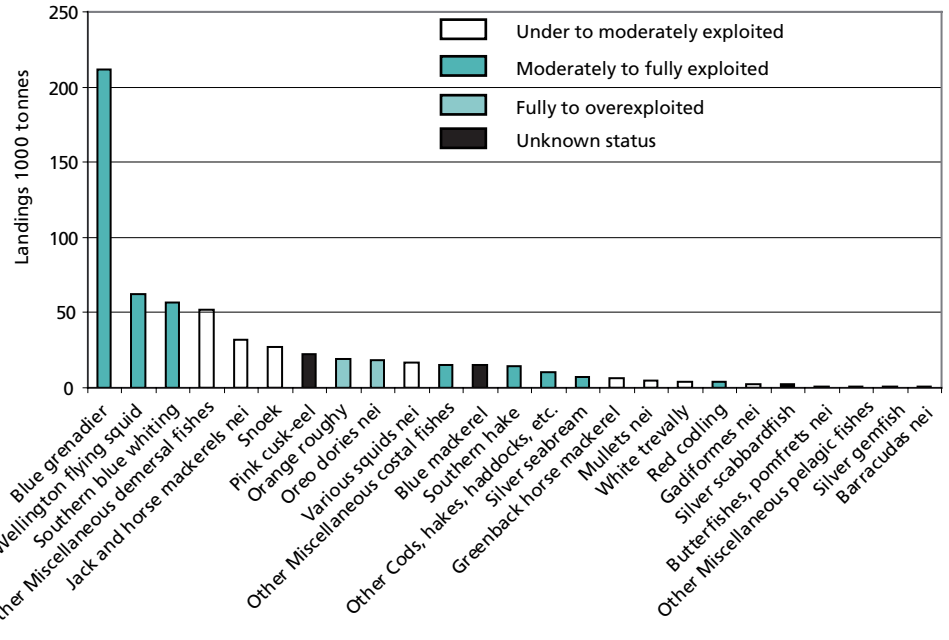


Source: FAO, 2005

SUMMARY AND CONCLUSIONS

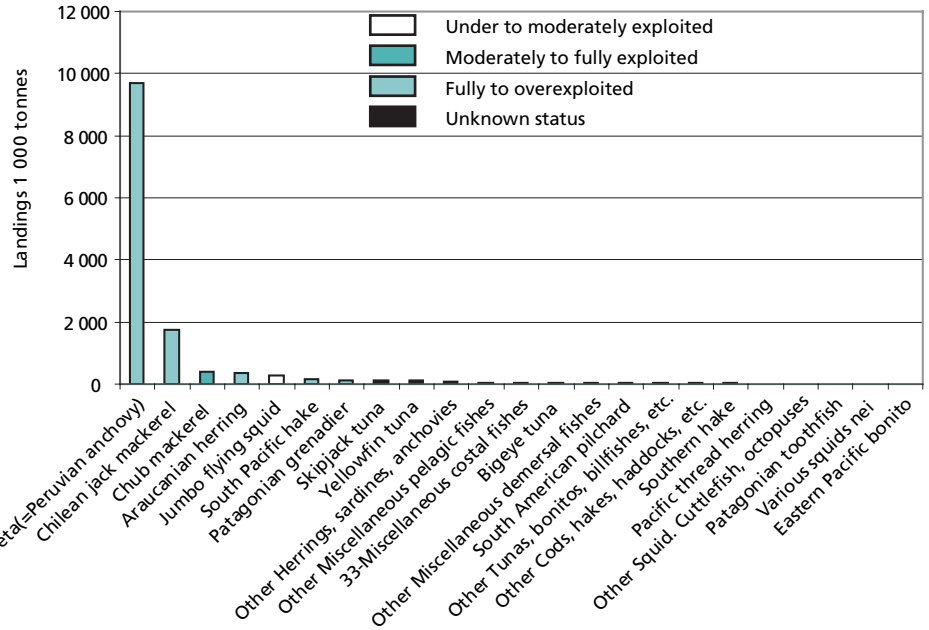
Fisheries management within the Pacific Ocean varied from highly structured and centralized to devolved and community-based management systems and from data rich to data poor systems. The countries themselves varied to from capital intensive and developed economics to labour intensive and least developed economies. Therefore, generalized comments can be easily countered by specifics. Having said this, there

FIGURE 29
2002 Landings and stock status of 25 species landed in the Southwest Pacific



Source: FAO, 2005

FIGURE 30
2002 Landings and stock status of 23 species landed in the Southeast Pacific



Source: FAO, 2005

were several tendencies shared across many of the Pacific Ocean fisheries worthy of mentioning.

In general, there was a shift from development/production-oriented policies toward management and sustainability policies and from *ad hoc* planning and decision making to stated policy and management objectives supported by legal frameworks. These

legal frameworks aimed to increased transparency in planning and decision-making by defining the roles and responsibilities of the various stakeholders, structuring the planning processes, increasing stakeholder consultations, devolving responsibility for developing and implementing management measures, and requiring more integrated information for decision-making. However, the ultimate decision-making tended to remain at top levels without the assistance of transparent and well-defined decision-making rules.

Funding of management primarily came from state coffers although some countries were shifting to at least partial recovery of management costs through the collection of license fees throughout the fishing sub-sectors. Such costs had increased over the years due to increased monitoring and enforcement, modifying regulations, and stakeholder consultations. However, the impression was that there were insufficient funds to properly monitor and enforce the fisheries and, combined with low penalties, the risks of being penalized were too low to act as deterrents; pointing to a weak point in management implementation throughout the Pacific Ocean countries.

Countries were starting to expand their use of management tools, such as spatial and temporal restrictions, however, incentive adjusting or rights providing mechanisms were often limited to the issuance of fishing licences. Use of varied management tools, as well as formal management plans, were even more limited in the recreational fisheries sub-sector, although their importance (economic and biological) had been acknowledge in a growing number of countries in the region.

As mentioned above, great efforts had been made to include stakeholders in the planning and management processes, helping to reduce conflicts, increase voluntary stewardship of the resources, and accelerate management processes. However, conflict remained prevalent within and among the fisheries and other users of the aquatic resources. To assist in minimizing these conflicts, conflict resolution methods were often applied in the large-scale and small-scale fisheries and included zoning, stock enhancement, resource allocations, and sensitization methods.

Knowledge about fleet capacities and fishing efforts had increased but only in certain areas and was still sorely lacking in most small-scale and recreational fisheries. In addition, although knowledge about key target stocks had increased, there remained many gaps in knowledge, especially in the low-valued by-catch species. Contrary to a precautionary approach, and even when faced with over-capacity and over-fishing, very few capacity reduction programmes had been used.

It appears that fisheries management remained reactive for the most part - reacting to conflicts, stock/resource problems and international requirements; rather than providing a forward-looking framework for obtaining sustainable use of aquatic resources. In addition, while legal and policy frameworks had been revisited and updated, their implementation, including their monitoring and enforcement, remained inadequate.

Actions to address these issues may include:

- The definition of pre-defined trigger and reference points forcing management action, which would be guided by established decision-making rules and, thereby, increasing decision-making transparency and decreasing decision-making susceptibility to undo influences;
- The introduction of adaptive management strategies, based on strengthened management structures with well-defined, prioritized objectives;
- The strengthening of the application of ecosystem and precautionary approaches to fisheries management;
- The investigation of cost-effective data gathering methods for biological, economic, social, and environmental aspects of fisheries;
- The investigation of creative and simple “win-win” techniques to minimize harmful impacts of fisheries;

- An effective enforcement of fishery laws and regulations;
- A better control over growth in fishing fleet capacity;
- A greater harmonization of the definition and application of laws and regulations among and within the fishery sub-sectors;
- The development and implementation of fisheries management plans with relevant stakeholders;
- The elimination of harmful subsidies;
- An active participation in regional initiatives such as regional fishery bodies to assist in the control of IUU fishing, the harmonization of fisheries laws and regulations, and of the development of consistent management measures with respect to shared and transboundary stocks; and
- Continued involvement of stakeholders in management with consideration given to co-management schemes requiring the creation or strengthening of organizations to represent fishers and other interests.

The countries of the Pacific Ocean will need to continue in their development of sustainable fisheries management frameworks; addressing both international norms and agreements as well as adapting to each country's specific situation and needs. Although there is no panacea for managing all fisheries, countries could benefit from the experiences of other countries in the same region (many of which are presented in this report), as well as elsewhere[12], and existing literature in the search for creative and cost-effective methods for managing fisheries.

In addition, regardless of the management framework chosen, if there is a lack of political will to implement the relevant laws and regulations and management measures, even perfectly designed frameworks will remain on the bookshelves.

Finally, a better understanding of the effects of implemented management measures on the fisheries (e.g. economic efficiency, social justice, and stock/ecosystem health) would greatly assist in the adaptive improvement of fisheries management.

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[12] See, for example, the Review of the state of world marine capture fisheries management: Indian Ocean (De Young, 2006).

APPENDIX 1
Top three fisheries in the large-scale, small-scale and recreational fisheries within the Indian Ocean countries

	Large-scale (Commercial/ Industrial)		
Australia (Pacific coast)	Southeast Trawl	East Coast Tuna and billfish	Northern Prawn Trawl
Cambodia	Trawl	Gill Net	Purse seine
Canada	Hake trawl	Groundfish trawl	Salmon
Chile	Jurel	Anchoveta	Caballa
China	Trawlers		
Colombia (Pacific coast)	Tunas	Small pelagics	Shrimps
Costa Rica (Pacific coast)	Tuna Purse Seine Vessels	Long line	Shrimp Trawlers
Ecuador	Pelágicos Pequeños	Atunes	Camarón de Arrastre
El Salvador	Tuna	Shrimp	Crawfish
Fiji	Tuna longline	Tuna pole and line	
FSM	Tuna purse seine	Tuna longline	Tuna pole/line
Guatemala (Pacific and Atlantic coasts)	Shrimp	Shark	Tuna
Honduras (Pacific coast)	Camarón	Langosta	Caracol
Indonesia (Pacific and Indian coasts)	Longline	Purse seine	Shrimp nets
Japan	purse seine	Longline	Trawling
Korea (Republic of)	Anchovy	Mackerels	Squids
Malaysia (Pacific and Indian coasts)	Trawl	Purse Seine	
Mexico (Pacific coast)	Sardine	Tuna	Shrimp
New Zealand	Hoki	Squid	Southern Blue Whiting
Nicaragua (Pacific coast)	Finfish	Shrimp	
Panama	Anchovies/herrings	Snappers	Shrimps
Peru	Anchoveta	Merluza	Jurel-Caballa
Philippines	Roundhead	Indian Sardines	Skipjack
Russian Federation	Alaska Pollack in Sea of Okhotsk and Bering Sea	Herring in Northern Sea of Okhotsk	Pacific salmon in Kamchatka
Samoa	Tuna longline	Deepslope bottomfish	
Taiwan Province of China	Tuna Long Line	Purse Seine for Tuna	Squid Jigging
Thailand (Pacific coast)	Trawl	Purse Seine	Gillnet
United States (Pacific coast)	Pacific Whiting	Pacific Sardines	Squid (loligo)
Viet Nam	Trawl	Purse Seine	Gill Net

	Small-scale, artisanal, lifestyle, subsistence, indigenous, customary		
Australia (Pacific coast)	Saltwater prawn (shrimp)	Marine bivalves	Small baitfish
Cambodia	Subsistence	Artisanal	Largest small-scale
Canada	First nations		
Chile	Sardina comun	Anchoveta	Merluza comun
China	Small scale gill and drifnets	Set-net	
Colombia (Pacific coast)	Bentonics	Pelagics	Crustaceans
Costa Rica (Pacific coast)	Coastal demersal and pelagic		
Ecuador	Tunas and other large pelagics	Demersals	Sharks
El Salvador	Finfish	Shrimp	Other crustaceans
Fiji	Finfish	Non-finfish	Subsistence
FSM	Nearshore trolling for tuna	Night spearfishing for reef fish	Trochus (trochus niloticus)
Guatemala (Pacific and Atlantic coasts)	Shark	Shrimp	Mahi mahi
Honduras (Pacific coast)	Corvinas, pargos y jureles, camarón	Camarón, tiburones y rayas	Jaiba
Indonesia (Pacific and Indian coasts)	Gillnets	Seine nets	Trap
Japan	Set net	Trawling	Gillnet
Korea (Republic of)	n.a.		

	Small-scale, artisanal, lifestyle, subsistence, indigenous, customary		
Malaysia (Pacific and Indian coasts)	Drift & gill net	Hook & line	Bag net
Mexico (Pacific coast)	Giant squid	Sharks	Shrimp
New Zealand	Grey mullet	Kina	Paua
Nicaragua (Pacific coast)	Shrimp	Lobster	Finfish
Panama	Fish	Shellfish	Mollusk
Peru	Peces	Crustaceos	Moluscos
Philippines	Frigate	Yellowfin	Sardines
Russian Federation	n.a.		
Samoa	Diving/spearing	Gillnetting	Hook/line fishing
Taiwan Province of China	n.a.		
Thailand (Pacific coast)	Small scale gillnet	Trap	Hook & line
United States (Pacific coast)	Sea urchins	Clams	Sea cucumbers
Viet Nam	Small gill net	Shrimp trawl	Small liftnet with light

Note: n/a = not applicable; n.a. = not available

	Recreational fisheries, including non-consumptive use		
Australia (Pacific coast)	Flathead	Whiting	Bream
Cambodia	only limited recreational fishing		
Canada	salmon (chinook and coho)	salmon (sockeye, pink & chum)	Rockfish
Chile	Trucha Arcoiris	Trucha Café	Salmon
China	n.a.		
Colombia (Pacific coast)	Sailfish	Marlin	Swordfish
Costa Rica (Pacific coast)	Sport Pelagic and Demersal		
Ecuador	Pesca deportiva de altura	Buceo con Arpón	Pesca deportiva de playa
El Salvador	Pez vela, dorado	Marlin, dorado	Pez Espada, dorado
Fiji	Private recreational gamefishing	Commercial charterboat sportfishing	
FSM	Pelagic recreational trolling	Commercial sport fishing	
Guatemala (Pacific and Atlantic coasts)	Swordfish	Mahi mahi	Sailfish
Honduras (Pacific coast)	Pez Espada	Pez Vela	Sábalo
Indonesia (Pacific and Indian coasts)	n.a.		
Japan	rod/line on-board	handline on-board	rod/line on beach
Korea (Republic of)	n.a.		
Malaysia (Pacific and Indian coasts)	n.a.		
Mexico (Pacific coast)	Striped Marlin, Blue Marlin, Sailfish	Dolphinfish	Roosterfish
New Zealand	Snapper	Kahawai	Kingfish
Nicaragua (Pacific coast)	n.a.		
Panama	Various demersals and pelagics		
Peru	n.a.		
Philippines	Various demersals and pelagics		
Russian Federation	n.a.		
Samoa	Recreational sport fishing	Commercial sport fishing	
Taiwan Province of China	n.a.		
Thailand (Pacific coast)	n.a.		
United States (Pacific coast)	Flatfishes	Salmon	Rockfish
Viet Nam	n.a.		

Note: n/a = not applicable; n.a. = not available

APPENDIX 2
State of exploitation of selected species fished in 2002

Northwest Pacific (FAO Statistical Area 61)

Stock or species groups	Main fishing countries	State of exploitation*
Chum(=Keta=Dog)salmon	Japan, Russian Fed	F
Pink(=Humpback)salmon	Russian Fed, Japan	F
Other Salmons, trouts, smelts, etc.		F
Salmons, trouts, smelts, etc.		
Alaska pollock(=Walleye poll.)	Russian Fed, Japan, Korea D P Rp	F
Pacific cod	Russian Fed, Japan, Korea Rep	F
Other Cods, hakes, haddocks, etc.		F
Cods, hakes, haddocks, etc.		
Yellow croaker	China	F
Other Miscellaneous costal fishes		F
Miscellaneous costal fishes		
Largehead hairtail	China	F-O
Other Miscellaneous demersal fishes		?
Miscellaneous demersal fishes		
Japanese anchovy	China, Japan, Korea Rep	F
Japanese pilchard	China, Japan	M
Pacific herring	Russian Fed, China	?
Other Herrings, sardines, anchovies		?
Herrings, sardines, anchovies		
Tunas, bonitos, billfishes, etc.		
Chub mackerel	China, Japan, Korea Rep	F
Japanese jack mackerel	Japan, Korea Rep	F
Pacific saury	Japan, Russian Fed, China,Taiwan p. China	F
Other Miscellaneous pelagic fishes		F
Miscellaneous pelagic fishes		
Sharks, rays, chimaeras, etc.		?
Marine fishes not identified		?
Gazami crab	China, Korea Rep	?
Other Sea-spiders, crabs, etc.		F
Sea-spiders, crabs, etc.		
Akiami paste shrimp	China	?
Other Shrimps, prawns, etc.		?
Shrimps, prawns, etc.		
Yesso scallop	Japan	?
Scallops, penctens, etc.		
Japanese carpet shell	Japan, Korea Rep	?
Other Clams, cockles, arkshells, etc.		?
Clams, cockles, arkshells, etc.		
Japanese flying squid	Japan, Korea Rep	M (R)
Various squids nei	China, Russian Fed, Japan	F
Other Squid. Cuttlefish, octopuses		?
Squid. Cuttlefish, octopuses		

* (U) Underexploited; (M) Moderately exploited; (F) Fully exploited; (O) Overexploited; (D) Depleted; (R) Recovering.
Source: FAO, 2005

Northeast Pacific (FAO Statistical Area 67)

Stock or species groups	Main fishing countries	State of exploitation*
Chinook(=Spring=King)salmon	USA, Canada	F-O
Chum(=Keta=Dog)salmon	USA, Canada	F
Coho(=Silver)salmon	USA	F-O
Pink(=Humpback)salmon	USA, Canada	F
Sockeye(=Red)salmon	USA, Canada	F
Other Salmons, trouts, smelts, etc.		
Salmons, trouts, smelts, etc.		
Pacific halibut	USA, Canada	F
Yellowfin sole	USA	U
Other Flounders, halibuts, soles		?
Flounders, halibuts, soles		
Alaska pollock(=Walleye poll.)	USA	F
North Pacific hake	USA	U-D
Pacific cod	USA	?
Other Cods, hakes, haddocks, etc.		?
Cods, hakes, haddocks, etc.		
Miscellaneous costal fishes		
Pacific herring	USA, Canada	M-O
Other Herrings, sardines, anchovies		?
Herrings, sardines, anchovies		
Chub mackerel	USA	F
Other Miscellaneous pelagic fishes		?
Miscellaneous pelagic fishes		
Dungeness crab	USA, Canada	F
Pacific rock crab	USA	F
Other Sea-spiders, crabs, etc.		F
Sea-spiders, crabs, etc.		
Pacific shrimps nei	USA	?
Other Shrimps, prawns, etc.		F-O-D
Shrimps, prawns, etc.		

* (U) Underexploited; (M) Moderately exploited; (F) Fully exploited; (O) Overexploited; (D) Depleted; (R) Recovering.
Source: FAO, 2005

Western Central Pacific (FAO Statistical Area 71)

Stock or species groups	Main fishing countries	State of exploitation*
Chacunda gizzard shad	Philippines, Malaysia	?
Diadromous clupeoids nei	Malaysia	?
Indian pellona	Malaysia, Philippines	?
Toli shad	Indonesia	M-F
Shads, etc.		
Bigeyes nei	Thailand, Indonesia	?
Lizardfishes nei	Thailand, Indonesia, Malaysia, Philippines	M-O
Mullets nei	Indonesia, Philippines, Thailand, Fiji Islands	M-F
Percoids nei	Philippines	?
Ponyfishes(=Slipmouths) nei	Indonesia, Philippines	M-O
Sea catfishes nei	Indonesia, Malaysia, Thailand, Philippines	M
Threadfin breams nei	Thailand, Philippines, Indonesia, Malaysia	M-F
Other Miscellaneous costal fishes		?
Miscellaneous costal fishes		
Hairtails, scabbardfishes nei	Indonesia, Philippines	M-F
Largehead hairtail	Thailand, Malaysia	M-F
Other Miscellaneous demersal fishes		?
Miscellaneous demersal fishes		
Anchovies, etc. nei	Thailand	F
Bali sardinella	Indonesia	F
Goldstripe sardinella	Indonesia	M-F
Sardinellas nei	Philippines, Thailand	M-F
Stolephorus anchovies	Indonesia, Philippines	F
Other Herrings, sardines, anchovies		?
Herrings, sardines, anchovies		
Frigate and bullet tunas	Philippines, Thailand	F
Kawakawa	Malaysia, Philippines, Thailand	M
Skipjack tuna	China,Taiwan p. China, Indonesia, Korea Rep, Japan	F
Tuna-like fishes nei	Indonesia, Viet Nam	M
Yellowfin tuna	Indonesia, Philippines, China	F
Other Tunas, bonitos, billfishes, etc.		M
Tunas, bonitos, billfishes, etc.		
Bigeye scad	Philippines, Thailand	M-F
Carangids nei	Indonesia, Philippines, Thailand	?
Flyingfishes nei	Philippines, Indonesia	M
Indian mackerel	Philippines, Thailand	?
Indian mackerels nei	Indonesia, Thailand, Malaysia	F
Indian scad	Malaysia, Thailand	F
Scads nei	Philippines, Indonesia	M-F
Short mackerel	Philippines	M-F
Other Miscellaneous pelagic fishes		M-F
Miscellaneous pelagic fishes		
Rays, stingrays, mantas nei	Indonesia, Malaysia, Thailand, Philippines	M-F
Sharks, rays, skates, etc. nei	Indonesia, China,Taiwan p. China, Malaysia, Thailand	M-F
Sharks, rays, chimaeras, etc.		
Marine fishes nei	Viet Nam, Thailand, Indonesia, Malaysia	M-F
Marine fishes not identified		
Banana prawn	Indonesia, Thailand, Australia	F
Giant tiger prawn	Indonesia, Australia	F-O
Natantian decapods nei	Indonesia, Viet Nam, Malaysia	?
Penaeus shrimps nei	Thailand, Philippines, Australia	M-F
Sergestid shrimps nei	Philippines, Thailand, Malaysia	M-F
Other Shrimps, prawns, etc.		?
Shrimps, prawns, etc.		
Common squids nei	Thailand, Indonesia, Philippines	M-F
Cuttlefish,bobtail squids nei	Thailand, Malaysia, Indonesia	M-F
Octopuses, etc. nei	Thailand, Philippines, Indonesia	M
Various squids nei	Malaysia, Korea Rep	?
Other Squid. Cuttlefish, octopuses		?
Squid. Cuttlefish, octopuses		

* (U) Underexploited; (M) Moderately exploited; (F) Fully exploited; (O) Overexploited; (D) Depleted; (R) Recovering.
Source: FAO, 2005

Eastern Central Pacific (FAO Statistical Area 77)

Stock or species groups	Main fishing countries	State of exploitation*
32-Cods, hakes, haddocks, etc.		?-U
33-Miscellaneous costal fishes		M-O
34-Miscellaneous demersal fishes		?
California pilchard	Mexico, USA	M-F
Californian anchovy	USA, Mexico	M-F
Pacific anchoveta	Panama	M-F
Pacific thread herring	Panama	M-F
Other Herrings, sardines, anchovies		?
35-Herrings, sardines, anchovies		
Albacore	China,Taiwan p. China, Amer Samoa, Fr Polynesia, Samoa	?
Bigeye tuna	Japan, Korea Rep, China, USA	?
Pacific bluefin tuna	Mexico	?
Skipjack tuna	Spain, Guatemala, Mexico, Other nei	?
Yellowfin tuna	Mexico, Venezuela, Other nei	?
Other Tunas, bonitos, billfishes, etc.		?
36-Tunas, bonitos, billfishes, etc.		
Chub mackerel	Mexico, USA	M
Pacific jack mackerel	USA	U
Other Miscellaneous pelagic fishes		?
37-Miscellaneous pelagic fishes		
39-Marine fishes not identified		?
Dungeness crab	USA	?
Other Sea-spiders, crabs, etc.		?
42-Sea-spiders, crabs, etc.		
45-Shrimps, prawns, etc.		**F-O**
53-Oysters		?
Jumbo flying squid	Mexico	M-F
Octopuses, etc. nei	Mexico, Costa Rica	?
Opalescent inshore squid	USA	M-F
Various squids nei	Korea Rep, Costa Rica	?
57-Squid. Cuttlefish, octopuses		

* (U) Underexploited; (M) Moderately exploited; (F) Fully exploited; (O) Overexploited; (D) Depleted; (R) Recovering.
Source: FAO, 2005

Southwest Pacific (FAO Statistical Area 81)

Stock or species groups	Main fishing countries	State of exploitation*
Blue grenadier	New Zealand	M/F
Gadiformes nei	Japan, Korea Rep	M
Red codling	New Zealand	F
Southern blue whiting	New Zealand, Japan	F
Southern hake	New Zealand, Korea Rep	F
Other Cods, hakes, haddocks, etc.		F
32-Cods, hakes, haddocks, etc.		
Mullets nei	Australia, New Zealand	?M
Silver seabream	New Zealand, Australia	F
Other Miscellaneous costal fishes		F
33-Miscellaneous costal fishes		
Demersal percomorphs nei	Japan	?
Hairtails, scabbardfishes nei	Korea Rep	?
Orange roughy	New Zealand	F/O
Oreo dories nei	New Zealand	F/O
Pink cusk-eel	New Zealand, Korea Rep	?
Silver gemfish	New Zealand, Australia	F/O
Silver scabbardfish	New Zealand	-
Snoek	New Zealand, Ukraine	M
South Pacific breams nei	Ukraine	F
Other Miscellaneous demersal fishes		?M
34-Miscellaneous demersal fishes		
Barracudas nei	Korea Rep	?M
Blue mackerel	New Zealand, Ukraine	?
Butterfishes, pomfrets nei	Japan	M
Greenback horse mackerel	Ukraine	M
Jack and horse mackerels nei	New Zealand	M
Mackerels nei	Australia	?
White trevally	New Zealand, Australia	M
Other Miscellaneous pelagic fishes		M
37-Miscellaneous pelagic fishes		
Cuttlefish,bobtail squids nei	Australia	?
Octopuses, etc. nei	Australia, New Zealand	M
Various squids nei	Korea Rep	M
Wellington flying squid	New Zealand, Ukraine	F
57-Squid. Cuttlefish, octopuses		

* (U) Underexploited; (M) Moderately exploited; (F) Fully exploited; (O) Overexploited; (D) Depleted; (R) Recovering.
Source: FAO, 2005

Southeast Pacific (FAO Statistical Area 87)

Stock or species groups	Main fishing countries	State of exploitation*
Patagonian grenadier	Chile	F-O
South Pacific hake	Chile, Peru	F-O-D
Southern hake	Chile	F-O
Other Cods, hakes, haddocks, etc.		?
32-Cods, hakes, haddocks, etc.		
33-Miscellaneous costal fishes		?
Patagonian toothfish	Chile	M
Other Miscellaneous demersal fishes		F-O
34-Miscellaneous demersal fishes		
Anchoveta(=Peruvian anchovy)	Peru, Chile	R-O
Araucanian herring	Chile	F-O
Pacific thread herring	Ecuador	F
South American pilchard	Chile, Peru, Ecuador	F-O
Other Herrings, sardines, anchovies		?
35-Herrings, sardines, anchovies		
Bigeye tuna	Ecuador, Japan, Other nei, Spain	?
Eastern Pacific bonito	Peru	D-O
Skipjack tuna	Ecuador, Other nei, Spain	?
Yellowfin tuna	Ecuador, Venezuela, Other nei, Colombia	?
Other Tunas, bonitos, billfishes, etc.		?
36-Tunas, bonitos, billfishes, etc.		
Chilean jack mackerel	Chile, Peru	F-O
Chub mackerel	Chile, Peru	M-F
Other Miscellaneous pelagic fishes		?
37-Miscellaneous pelagic fishes		
Jumbo flying squid	Peru, Japan, China, Korea Rep	M
Various squids nei	Chile	M
Other Squid. Cuttlefish, octopuses		?
57-Squid. Cuttlefish, octopuses		

* (U) Underexploited; (M) Moderately exploited; (F) Fully exploited; (O) Overexploited; (D) Depleted; (R) Recovering.
Source: FAO, 2005