Conservation Services Programme Annual Research Report

Katie Clemens-Seely and Kris Ramm
Marine Species and Threats

Department of Conservation
Te Papa Atawhai

Conservation Services Programme Annual Research Report

Background

- Stakeholder desire for rationalized and timely reporting
- Better integration with CSP's new strategic direction

Aim

- A single concise summary of the year's research and outputs
- Integrating the results of observer coverage with other CSP funded research
- Updates of the status of multiyear projects
- Ties back to each years annual plan
- Helps feed into future planning processes e.g. CSP RAG

Department of Conservation
Te Papa Atawhai

Conservation Services Programme Annual Research Report

Structure

Introduction

- Outlines background on the CSP
- Details any supporting documents or processes
- Details planning process for that year and any consultation

Department of Conservation
Te Papa Atawhai

Conservation Services Programme Annual Research Report

Structure

Project summary

~2 page summary per project

- Overall and specific objectives
- Rationale
- Project status
- Summary of methods and key findings
- Project logistics summary statement
- Citation
- Weblinks

Department of Conservation
Te Papa Atawhai

Conservation Services Programme Annual Research Report

Structure

Observer summary

~4 page summary per fishery

- Overall and specific objectives
- Rationale
- Summary of methods and key findings including:
    - Observer coverage
    - Bycatch per species
    - Method of interaction
- Narrative of any patterns of trends observed, any anomalies or the cause of key bycatch events
- Consistent with previous observer reports
- Project logistics summary statement
- Citation
- Weblinks

Department of Conservation
Te Papa Atawhai

Conservation Services Programme Annual Research Report

Any questions?

- Gaps
- Structural change
- Level of detail

Department of Conservation
Te Papa Atawhai

CSP Annual Research Report

Recommendations

POP2011-06 Protected coral distribution and overlap with commercial fishing

- Research to better understand the distribution of protected corals
  - Update and maintain the protected coral dataset
  - Increase observer coverage
  - Improve the quality of observer data
  - Improve identification of protected corals

- Research to better understand coral biology
  - Collect information on coral age, growth, size, & form
  - Review international literature with regard to biological parameters
  - Species associations

- Additional environmental data layer
  - For modeling the distribution of protected corals

Department of Conservation
Te Papa Atawhai

Recommendations from 2011-2012 Conservation Services Programme Research Reports

Department of Conservation
Te Papa Atawhai

INT2011-02 Protected species interactions with commercial pot and trap fishing methods in New Zealand

- In-depth research project into the breeding ecology & the foraging behaviour and range of Chatham Island and Pitt Island shag
  - To determine & mitigate the cause of the population decline in both these species

Department of Conservation
Te Papa Atawhai

POP2011-03 Protected fish – review of interactions and populations

- Should focus on:
  - Basking shark, white shark, deepwater nurse shark, spinetail devil ray, & spotted black grouper
- Efforts should be made to increase the availability for research of specimens of protected fish species by:
  - making it legal for fishers to land dead specimens;
  - encouraging and educating fishers about the value of specimens for research; and
  - providing the specimens to a research organisation
- Genetic analyses and electronic tagging should also be implemented urgently

Department of Conservation
Te Papa Atawhai

POP2011-03 Protected fish – review of interactions and populations

		Stock identification - population unit					Biological information - species productivity					
Species	Proportion of stock in NZ	Genetic stock structure	Movement	World distribution	Habitat	Sum	Growth	Longevity	Maturity	Reproduction	Natural mortality	Sum
Basking shark	High	1	2	3	2	8	1	1	1	1	1	5
White shark	High	3	3	3	3	12	2	1	2	1	1	7
Whale shark	Low	2	2	3	3	10	1	1	1	1	1	5
Deepwater nurse shark	High?	0	0	2	1	3	0	0	1	1	0	2
Spinetail devilray	Moderate	0	1	3	3	7	1	1	2	2	0	6
Manta ray	Low?	1	1	3	2	7	0	1	2	2	0	5
Spotted black grouper	High	1	0	4	3	8	2	2	1	1	2	8
Giant grouper	Low	0	0	3	3	6	0	0	1	0	0	1
Sum		8	9	24	20		7	7	11	9	5	

		Species and fishery distribution - extent of overlap in NZ				Response to exploitation in NZ			
Species	Proportion of stock in NZ	Stock distribution	Fishery distribution	Vulnerable components in commercial fisheries	Sum	Catches and biomass	Size composition	Sum	
Basking shark	High	3	2	> 4 m	5	2	0	2	
White shark	High	3	2	All	5	0	0	0	
Whale shark	Low	3	4	Not vuln.	7	NA	NA		
Deepwater nurse shark	High?	1	1	All	2	0	0	0	
Spinetail devilray	Moderate	3	3	All	6	0	0	0	
Manta ray	Low?	2	3	Not vuln.	5	NA	NA		
Spotted black grouper	High	3	3	All	6	0	0	0	
Giant grouper	Low	3	2	Not vuln.	5	NA	NA		
Sum		21	20			2	0		

Information level
0 = none
1 = poor
2 = moderate
3 = good
4 = excellent
NA = not applicable

Department of Conservation
Te Papa Atawhai

POP2011-06 Protected coral distribution and overlap with commercial fishing

- Research to better understand the distribution of protected corals
  - Update and maintain the protected coral dataset
  - Increase observer coverage
  - Improve the quality of observer data
  - Improve identification of protected corals

- Research to better understand coral biology
  - Collect information on coral age, growth, size, & form
  - Review international literature with regard to biological parameters
  - Species associations

- Additional environmental data layer
  - For modeling the distribution of protected corals

Department of Conservation
Te Papa Atawhai

POP2011-07 Pied shag – population review and estimate

- Investigation into the proportion of the population breeding & variability in breeding in relation to colony size
  - Enabling more accurate estimates of the national pied shag population
- GPS investigation to determining the foraging range of breeding pied shags
- Investigation into the impacts of recreational fishing
  - In particular → line entanglement

Department of Conservation
Te Papa Atawhai

POP2011-08 Yellow-eyed penguin – review of population information

- Increase observer coverage
  - To improve the quality of risk assessment
- Comprehensive analysis of foraging ecology & at sea distribution (& seafloor surveys)
  - To assess the impact of benthic habitat degradation

Department of Conservation
Te Papa Atawhai

MIT2011-01 Protected rays - mitigate captures and assess survival of live-released animals

- More detailed information must be collected on manta and devil ray encounters
  - Observers should know correct codes and identification, record data on behaviour, release methods, and condition prior to release
- Spotter planes should record observation of manta and devil rays
  - Valuable information on spatial & temporal patterns of occurrence

MIT2011-03 (& MIT2012-01)Inshore bottom longline – develop strategies to increase line sink rates

- Increase longline sink rates
  - Modify line-weighing regimes & float usage
- Reduce setting speeds
- Retaining baits
- Improve streamer line design & consistently deploy streamer lines
  - Hooks are protected by streamer links up to 10m

Department of Conservation
Te Papa Atawhai

Recommendations from 2012-2013 Conservation Services Programme Research Reports

Department of Conservation
Te Papa Atawhai

POP2012-03 Black petrel – at-sea distribution and population estimate

- Population monitoring to be continued up to 2024/25 breeding season
  - To allow development of a multi-generational population model
- Study burrows checked for breeding pairs every year
  - More accurate determination of breeding success & sex of adults
- Use of GPS data loggers & TDRs
  - To investigate foraging behaviour, distances, locations, etc

POP2012-08 Pitt Island shags – foraging ecology

- Further studies on the foraging ecology of the in other locations
  - To determine differences in foraging behaviour & efficiency
- 3-5 year study investigating breeding parameters (i.e. success)