

REF NO. 18017

FROM: DIRECTOR-GENERAL: MS PAM YAKO

TO: DDG: mem

COMMENTS: Approved

and Tourism  
AFRICA

Reference: V1/17/5/1

**MINISTER**

**TOTAL ALLOWABLE EFFORT (TAE) FOR THE 2008 KZN DEEP SEA PRAWN TRAWL SEASON**

**1. PURPOSE**

- 1.1 To request that you determine the Total Allowable Effort (TAE) in respect of the KwaZulu-Natal Prawn Fishery for the 2008 season in terms of the provisions of Section 14 of the Marine Living Resource Act, 1998 (Act No. 18 of 1998).

**2. SUMMARY**

- 2.1 It is recommended that the Minister set the TAE at seven (7) vessels in the 2008 fishing season. Two vessels are to be restricted to fish offshore off 7 nautical miles. Five vessels may operate in all fishing grounds. Fishing on the Thukela Bank will be restricted to the period March to August, inclusive. The fishing season extends from 1 January 2008 to 31 December 2008.

**3. BACKGROUND AND DISCUSSION**

- 3.1. For the 2007 season the Minister determined a Total Allowable Effort (TAE) of seven (7) vessels of which two (2) were restricted to fish offshore off 7 nautical miles and the remainder of vessels fish on all grounds (Annexure A). Recreational fishing was limited to

fifty (50) prawns per person per day. Allocation for foreign and subsistence fishing was "NIL". Fishing on the Thukela Bank was also restricted to the period March to August.

- 3.2. The Department has considered the recommendation from the Chief Directorate: Research, Antarctica and Islands (Annexure B).
- 3.3. The Kwazulu-Natal (KZN) prawn fishery consists of two components: a shallow water (5-40 m) fishery on the Thukela Bank and at St Lucia in an area of roughly 500km<sup>2</sup> and a deep water fishery (100 – 600 m) between Cape Vidal in the north and Amanzimtoti in the south, covering an area of roughly 1700km<sup>2</sup> along the shelf-edge.
- 3.4. Vessels only target prawn when it is abundant along the coast of KwaZulu-Natal and shift into Mozambique in response to catch levels. Assessment of the local stock reflects recruitment failure on the Thukela Bank due to limited river water flow. Fishing in the area continues to be regulated through a closed season to reduce impacts of high by-catch to the environment.
- 3.5. It is recommended that the 2007 status quo be upheld for the 2008 fishing season. The remaining vessels should be restricted beyond seven (7) nautical miles from the shore. Patterns in by-catch suggest that the current restriction to fish from March to August (inclusive) on the Thukela Bank, which is recommended for the 2008 fishing season.

#### **4. OTHER BRANCHES/CHIEF DIRECTORATES CONSULTED**

- 4.1 The Chief Directorate: Marine Resource Management and the Chief Directorate: Research, Antarctica and Islands within the Branch: Marine and Coastal Management have been consulted.

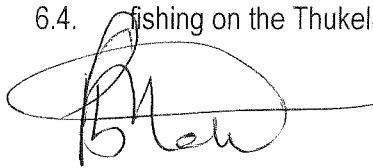
5. IMPLICATIONS

- Personnel: Limited
- Financial: None
- Communication: Limited

6. RECOMMENDATIONS

It is recommendation that:

- 6.1. the Total Allowable Effort for the 2008 KZN Deepsea Prawn Trawl season be determined at seven (7) vessels to fish KZN Prawn,
- 6.2. two (2) vessels be restricted offshore off 7 nautical miles,
- 6.3. five (5) vessels be permitted access to all the fishing grounds,
- 6.4. fishing on the Thukela Bank be restricted to the period March to August, inclusive.



DIRECTOR-GENERAL

DATE: 30/1/2008

RECOMMENDATION IN PARAGRAPH 6.1 APPROVED/NOT ~~APPROVED~~

RECOMMENDATION IN PARAGRAPH 6.2 APPROVED/NOT ~~APPROVED~~

RECOMMENDATION IN PARAGRAPH 6.3 APPROVED/NOT ~~APPROVED~~

RECOMMENDATION IN PARAGRAPH 6.4 APPROVED/NOT ~~APPROVED~~

MINISTER 

DATE: 04/02/08



environment & tourism

Department:  
Environmental Affairs and Tourism  
REPUBLIC OF SOUTH AFRICA

Reference: V1/17/5/1

MINISTER

**TOTAL APPLIED EFFORT (TAE) FOR THE 2007 KWAZULU-NATAL PRAWN FISHING SEASON**

**1. PURPOSE**

- 1.1 To request that you determine the Total Applied Effort (TAE) in respect of the KwaZulu-Natal Prawn Fishery for the 2007 season in terms of the provisions of Section 14 of the Marine Living Resource Act, 1998 (Act No. 18 of 1998).

**2. SUMMARY**

- 2.1 It is recommended that you set the TAE at seven (7) vessels in the 2007 fishing season. Two vessels are to be restricted offshore the limit of 7 nautical miles. Five vessels may operate in all fishing grounds. Fishing on the Thukela Bank will be restricted to the period March to August, inclusive. The fishing season will commence on the 1<sup>st</sup> January 2007.

**3. BACKGROUND**

- 3.1 For the 2006 season you determined a Total Allowable Effort (TAE) of seven vessels of which two were restricted to fish offshore of 7 nautical miles and the remainder of vessels fish on all grounds (Annexure A). Recreational fishing was limited to fifty prawns per

person per day. Allocation for foreign and subsistence fishing were nil. The Minister also restricted fishing on the Thukela Bank to the period March to August.

- 3.2 The fishery has a shallow water component on the Thukela Bank and St Lucia as well as a deep water component between Cape Vidal and Amanzimtoti. More than 75% of the total catch is discarded because of perceived low commercial value. Mitigation of the by-catch is a major challenge to management of the fishery in addition to setting of the allowable effort and closed season in shallow areas.
- 3.3 Vessels only target prawn when it is abundant along the coast of KwaZulu-Natal and shift into Mozambique in response to catch levels. Assessment of the local stock reflects recruitment failure on the Thukela Bank due to limited river water flow. Fishing in the area continues to be regulated through a closed season to reduce impacts of high by-catch to the environment.
- 3.4 It is recommended that the 2006 status quo be upheld for the 2007 fishing season. Effectively, seven vessels may fish where two will be free to operate on all fishing grounds. The remaining vessels should be restricted beyond seven nautical miles from the shore. Patterns in by-catch suggest that the current restriction to fish from March to August (inclusive) on the Thukela Bank be maintained for the 2007 fishing season.

#### 4. IMPLICATIONS

- Personnel: Limited
- Financial: None
- Communication: Limited

5. RECOMMENDATIONS

The Department considered the recommendations from the Chief Directorate: Research, Antarctica and Islands of the Branch: Marine and Coastal Management (Annexure B) and advises as follows:

- 5.1 Seven vessels are recommended to fish KZN Prawn.
- 5.2 Two vessels are to be restricted offshore the limit of 7 nautical miles.
- 5.3 Five vessels may operate in all fishing grounds.
- 5.4 Fishing on the Thukela Bank will be restricted to the period March to August, inclusive.

DIRECTOR-GENERAL (Acting)

DATE:

RECOMMENDATION IN PARAGRAPH 5.1 APPROVED/~~NOT APPROVED~~  
RECOMMENDATION IN PARAGRAPH 5.2 APPROVED/~~NOT APPROVED~~  
RECOMMENDATION IN PARAGRAPH 5.3 APPROVED/~~NOT APPROVED~~  
RECOMMENDATION IN PARAGRAPH 5.4 APPROVED/~~NOT APPROVED~~

MINISTER  
DATE:

*W.P.*  
7/01/07.

DEPARTMENT OF ENVIRONMENTAL AFFAIRS AND TOURISM  
MARINE AND COASTAL MANAGEMENT

RECOMMENDATIONS FOR THE SUSTAINABLE MANAGEMENT OF THE  
KWAZULU-NATAL TRAWL FISHERY IN 2008

November 2007

**1. Summary**

It is recommended that the Total Allowable Effort (TAE) for the fishery be maintained at seven fishing permits, of which two are restricted to fishing offshore of the 7 nautical mile limit. It is further recommended that the fishing season on the Thukela Bank is restricted to March – August (inclusive) to reduce bycatch.

**2. Background**

The Kwazulu-Natal (KZN) prawn trawl fishery consists of two components: a shallow water (5–40 m) fishery on the Thukela Bank and at St Lucia in an area of roughly 500 km<sup>2</sup> and a deep-water fishery (100–600 m) between Cape Vidal in the north and Amanzimtoti in the south, covering an area of roughly 1700 km<sup>2</sup> along the shelf-edge.

Shallow-water species include white prawns *Fenneropenaeus indicus* (80% of the prawn catch), brown prawns *Metapenaeus monoceros* and tiger prawns *Penaeus monodon*. The abundance of shallow-water prawns on the fishing grounds is highly variable between years depending on recruitment. Shallow-water prawns have a 1-year lifespan and the juvenile stages are spent in estuaries; recruitment therefore depends on rainfall and river run-off.

Deep-water species are pink and red prawns (*Haliporoides triarthrus* and *Aristaeomorpha foliacea*), langoustines (*Metanephrops mozambicus* and *Nephropsis stewarti*), rock lobster (*Palinurus delagoae*) and red crab (*Chaceon macphersoni*). These species are longer-lived and do not depend on an estuarine juvenile stage.

More than 75% (by mass) of the total catch of both fisheries are discarded at sea because it has little commercial value. Discards include cephalopods (octopus, squid and cuttlefish), fish (many species), elasmobranchs (sharks and rays), and lower value crustaceans.

Management of the fishery faces two major challenges; mitigation of bycatch and setting Total Allowable Effort (TAE) levels that reflect the high inter-annual variability of the shallow-water resource. Closed shallow-water fishing seasons to reduce catches of linefish and setting a status quo TAE based on historic effort levels have been the methods of choice.

### **3. Trends in catches**

It is important to note that many vessels only fish in KZN when prawns are abundant, but then relocate to other areas (Mozambique) in periods when yields in KZN decline and the operation becomes uneconomical. The total landed catch reported for 2006 (including retained bycatch of fish and cephalopods) was 276 t, slightly lower than the 318t of 2005, and below the average of 333 t for the 1995-2006 period.

Catches of shallow-water prawns strongly reflect annual recruitment from estuaries, and a predictive equation relating historical river flows to shallow-water prawn catch on the Thukela Bank has been developed for the 1988-2000 period by DWAF. Very low catches in recent years are attributed to drought conditions and the closure of the mouth of the St Lucia estuary by a sandbar – recruitment of juvenile prawns from the estuary to the Thukela Bank is therefore blocked. Catches in 2006 were 21.3t, a 35% decrease compared to 33t landed in 2005. (Table 1)

Catches in the deep-water fishery relate both to abundance and targeting practices, where specific depths or substrate types are selected to achieve a desired species mix or highest economic value. Landings of deep-water prawns decreased from 140t in 2005 to 123 t in

2006. Langoustine catches increased slightly from 42 t in 2005 to 49 t in 2006 while those of red crab and deepwater lobster remained stable, but at low levels (Table 1).

#### **4. Stock assessment and discarded bycatch**

The Oceanographic Research Institute (ORI) has been contracted to develop an assessment procedure for the prawn stocks in 2006/07, and this is currently being done. A fisheries observer program was initiated in 2002, and it continues to provide data and biological samples, focusing on identifying and quantifying discarded bycatch. Shallow-water trawling is only profitable between March and August, and catch rates of bycatch increase from October to December. Bycatch of juvenile fish is high in January and February.

#### **5. Conclusion**

Historical fishing effort in the KZN prawn trawl fishery has remained virtually unchanged since 1993 (one permit less in 2005 than in 2004), although many of the vessels operate in KZN waters only occasionally. Recruitment failure on the Thukela Bank as a result of inadequate river run-off has severely impacted on the shallow-water fishery. Bycatch species and quantum have been estimated, and stock assessments are underway. Reduction of bycatch can be achieved through extending the closed season on the Thukela Bank.

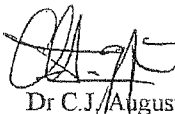
#### **6.) Recommendation**

It is recommended that:

- 6.1) The TAE strategy be retained for the fishery for 2008, and that the number of fishing permits be maintained at 7;
- 6.2) Two of the seven vessels be restricted to fishing offshore of the 7 nm limit;
- 6.3) The other five vessels be permitted access to all the fishing grounds;
- 6.4) Fishing on the Thukela Bank be restricted to March – August (inclusive).

Table 1: Total catches of the KZN prawn fishery in the various species groups

Year	Inshore Fishery	Offshore Fishery				Both Fisheries	
	Shallow-water prawn (t)	Deep-water prawn (t)	Langoustine (t)	Red crab (t)	Rock lobster (t)	Bycatch landed (t)	Total catch (t)
1992	87	112	70	187	31		
1993	52	166	83	138	33		
1994	47	65	46	79	10		
1995	23	106	60	108	11	34	342
1996	53	80	58	82	10	24	307
1997	15	79	78	114	10	21	317
1998	90	72	49	100	6	22	338
1999	72	124	49	73	8	28	354
2000	107	142	76	53	10	34	422
2001	63	103	80	54	8	4	313
2002	93	102	56	28	9	10	298
2003	29	162	60	40	5	91	387
2004	40	116	42	24	4	82	308
2005	33	140	42	31	4	88	339
2006	21.3	123	49	31	4.7	47	276


  
 CD: RA+J  
 Dr C.J. Augustyn  
 Date: 14/12/2007