

DEPARTMENT OF FISHERIES

SUMMARY OF INFORMATION PROVIDED TO RLIAC FOR THE 2009-10 WEST COAST ROCK LOBSTER MANAGED FISHERY SEASON

PURPOSE

The purpose of this document is to provide stakeholders with information to assist them in forming a view on the management package for the 2009-10 West Coast Rock Lobster Managed Fishery season. It summarises the information that was presented at the Rock Lobster Industry Advisory Committee (RLIAC) meeting prior to their development of interim advice to the Minister. The RLIAC preliminary advice is now available on the Department's website.

The Department of Fisheries is seeking submissions from stakeholders on the 2009-10 management arrangements. These submissions will be provided to RLIAC so they can be taken into account when finalising its advice to the Minister.

OVERVIEW AND CONTEXT FOR CONSIDERING 2009-10 MANAGEMENT ARRANGEMENTS

2008-09 Season

Below average puerulus settlement was observed in most locations in the West Coast rock lobster fishery in 2006-07. This was followed by another low settlement in 2007-08 and the lowest settlement on record in 2008-09. These low settlements will have a major impact on the catch of rock lobsters three and four years after settlement, commencing in the 'reds' (March-June) fishery of 2009-10.

In response to this low settlement, management action was taken during the 2008-09 season to limit the commercial rock lobster catch to 7,800 tonnes (compared with a predicted catch of 9,200 tonnes under 2007-08 effort levels). The aim of limiting catch was to maintain the breeding stock at acceptable levels and allow for the carry-over of lobsters into future years of low abundance. The specific management settings varied throughout the season, but the net result was a significant reduction in commercial rock lobster fishing effort.

Based on available information, it appears that these management changes were successful in restricting the catch to less than 7,800 tonnes.

Possible Causes of Low Puerulus Settlement

The Department of Fisheries has been working co-operatively with other research organisations to investigate the cause of recent low puerulus settlement. This included holding the *Western Rock Lobster Low Puerulus Risk Assessment Workshop* on 1st and 2nd April 2009. The report of this workshop will be published soon, but in summary the three most plausible causes as determined by an independent scientific panel were identified as:

- long-term environmental change;
- a combination of poor environmental conditions and a decline in breeding stock; or
- a decline in a particular part, or parts, of the breeding stock.

BREEDING STOCK AND CATCH LEVELS

The latest research modelling suggests that if the low puerulus settlement experienced in 2008-09 continued indefinitely, and the 'reds level' of fishing effort used in 2008-09 (i.e. 3 days off in peak periods and 2 days otherwise) was maintained, the breeding stock in all zones of the fishery would either fall below their historical range (A Zone) or below their respective threshold levels (B and C Zones) before 2020 (refer to **Figures 1-3**).

With the uncertainty surrounding the cause(s) of the extremely low puerulus settlements, the increased uncertainty in the predicted catch and associated breeding stock beyond the 2011 season (outside of the current predictive ranges), combined with 'current' effort levels likely to result in a relatively rapid decline in breeding stock, particularly in Zone C, RLIAC determined that it was appropriate to develop management strategies that would effectively deal with a worst case scenario.

Under the scenario of continued low settlement it is estimated (**refer to Figures 1-3**) that to maintain breeding stock levels within historical ranges and above the threshold levels then the required reductions in effort from the 2008-09 level are approximately:

- 30% in A and B Zones (or a 71% and 60% reduction on 2007-08 effort respectively for each zone); and
- 44% in C Zone (or a 62% reduction compared with 2007-08).

The impacts of these reductions on future catches are shown in **Figure 4**. The expected total annual catch for the fishery would be 5000 – 5500 t in 2009/10, with the annual catches declining to approximately 3000-3500 t by 2012-2013.

The effects on catch rate (catch per pot lift) of the proposed reductions, compared to the 2008-09 effort levels, are provided in **Figure 5**. Although catch per pot lift declines under both strategies, the decline is less for the proposed additional reductions in effort.

OPTIONS FOR ACHIEVING PROPOSED EFFORT REDUCTIONS (WORSE CASE SCENARIO)

There are a number of combinations of management tools that can be used to deliver the proposed effort reductions in the fishery. RLIAC has presented its preliminary proposed management package to the Minister and information on this package has also been released to stakeholders.

RLIAC's proposed package is as follows:

- 0.42 pot use all zones;
- Four consecutive days off (Fri – Mon) during the peaks (15 November – 14 January and 15 March – 14 April);
- Three consecutive days off during the remainder of the season
- 77 mm minimum "whites" gauge (15 November – 31 January);
- 55 mm escape gaps throughout the entire season;
- 15 November season start;
- No summer closure in Zone B;
- Big Bank to remain closed; and
- Review of management arrangements to take place in late January 2010 to determine the need for any changes to the above package.

- N.B. The package delivers the proposed 30% and 44% reduction on 2008-09 effort levels in B and C Zones respectively. However, it only delivers 17% for Zone A. Therefore further measures (i.e. a 30% reduction) would need to be considered for A Zone to remain above historical levels (see **Figure 3**).

The RLIAC package outlined above represents a preliminary proposal to assist in the consultation process. RLIAC will develop its final recommendations to the Minister following consideration of stakeholder submissions and the outcomes from the Western Rock Lobster Council's Rock Lobster Congress.

Alternative Ways of Achieving the Proposed Effort Reduction

The primary means by which effort can be reduced in the fishery is by limiting the number of pot lifts (unit values and/or days fished). This essentially means reducing either unit values (pot/unit ratio) and/or days fished. Other management changes (e.g. gauge changes, spatial closures) can be used to supplement controls on pot lifts or achieve specific outcomes (such as protecting breeding stock in a certain area). Therefore, a crucial issue for both the catching and processing sectors to consider is what combination of unit values and fishing days are most desirable from a practical and economic point of view. **Table 1** below has been included to assist stakeholders understand other potential combinations that still achieve the proposed reductions to deal with the worse case scenario.

Table 1: Combinations of days off and pots/unit to deliver effort reductions of 30% in A and B Zone and 44% in C Zone for the 2009-10 season

	Two / one days off	Three days off	Three / two days off
A zone	0.26	0.38	0.32
B zone	0.26	0.38	0.32
C zone	0.26	0.38	0.32

ADAPTIVE MANAGEMENT

Although the West Coast Rock Lobster Managed Fishery is an input (effort) managed fishery, in 2008-09, a nominal Total Allowable Commercial Catch (TACC) was introduced. To achieve this TACC, an adaptive management approach was adopted, whereby progress toward the nominal TACC was assessed in January and April, with management arrangements being adjusted accordingly.

It is anticipated that an adaptive management approach will be adopted during the coming season irrespective of which package is ultimately chosen. Industry should therefore be aware that there may be a need to make adjustments to management arrangements within the season.

CONSULTATION PROCESS AND TIMEFRAME

Stakeholders wishing to provide comments on the 2009-10 management package are invited to do so by **5pm, Friday 31 July 2009**.

Submissions should be directed to:

**The Chief Executive Officer
Department of Fisheries
Locked Bag 39
Cloisters Square Post office
PERTH WA 6850**

Please note that all submissions will be forwarded to RLIAC for its consideration.

RLIAC is scheduled to meet in early August to develop its final advice to the Minister. It is expected that the Minister will make his decision on next season's arrangements in mid-August.

Figure 1: Model derived breeding stock Index for A Zone. Solid lines represent estimates based on known levels of settlement to date (where we will go). Dotted lines represent the continuation of these effort scenarios assuming future puerulus settlement remains at 2008-09 levels. The green line represents the predicted effect on breeding stock under the preliminary proposed RLIAC package. The blue line illustrates the predicted effect on breeding stock of adopting the level of effort needed to retain breeding stock within the historical range indefinitely assuming future puerulus settlement remains at 2008-09 levels.

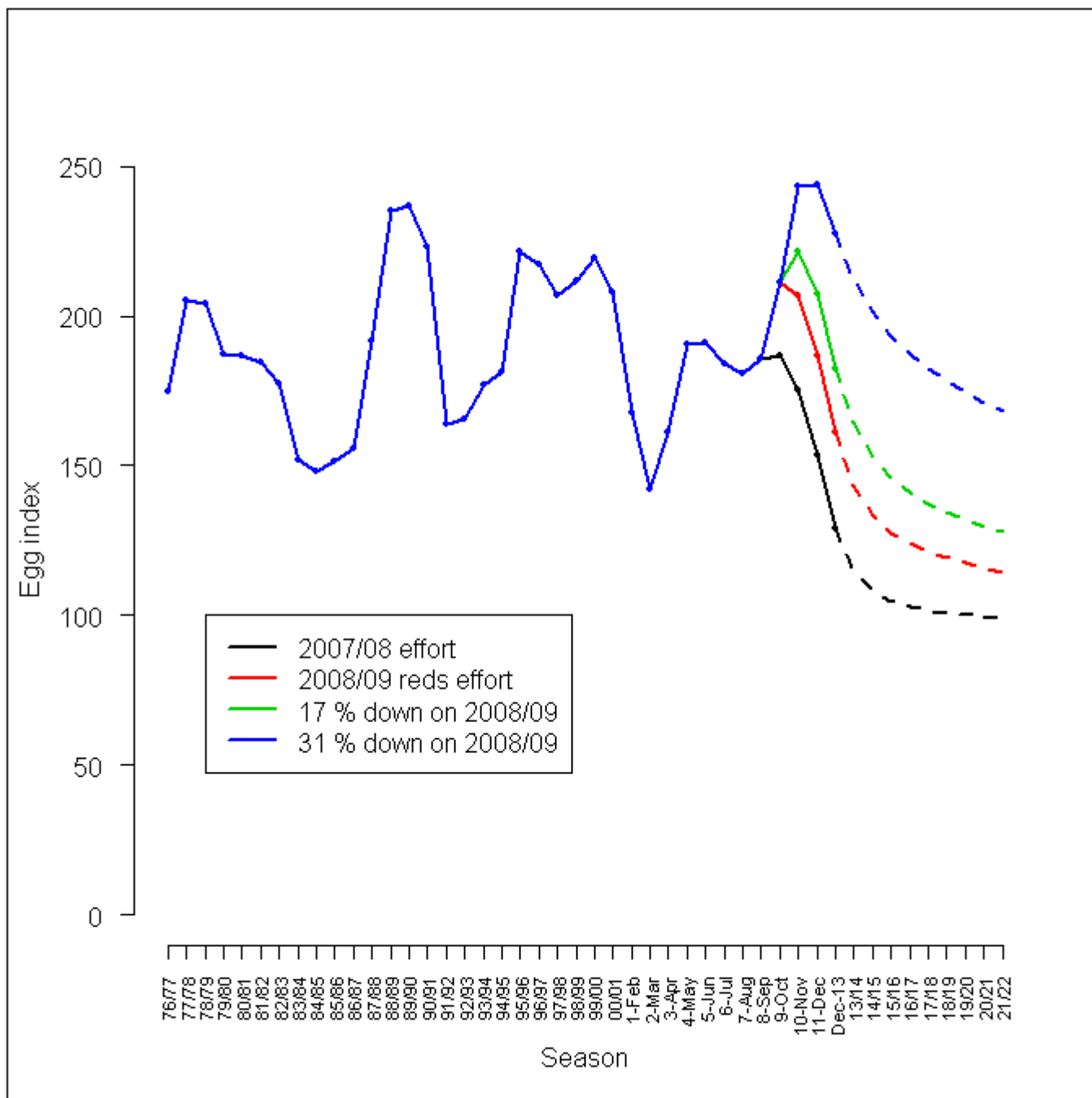


Figure 2: Model derived breeding stock Index for B Zone. Solid lines represent estimates based on known levels of settlement to date (where we will go). Dotted lines represent the continuation of these effort scenarios assuming future puerulus settlement remains at 2008-09 levels.

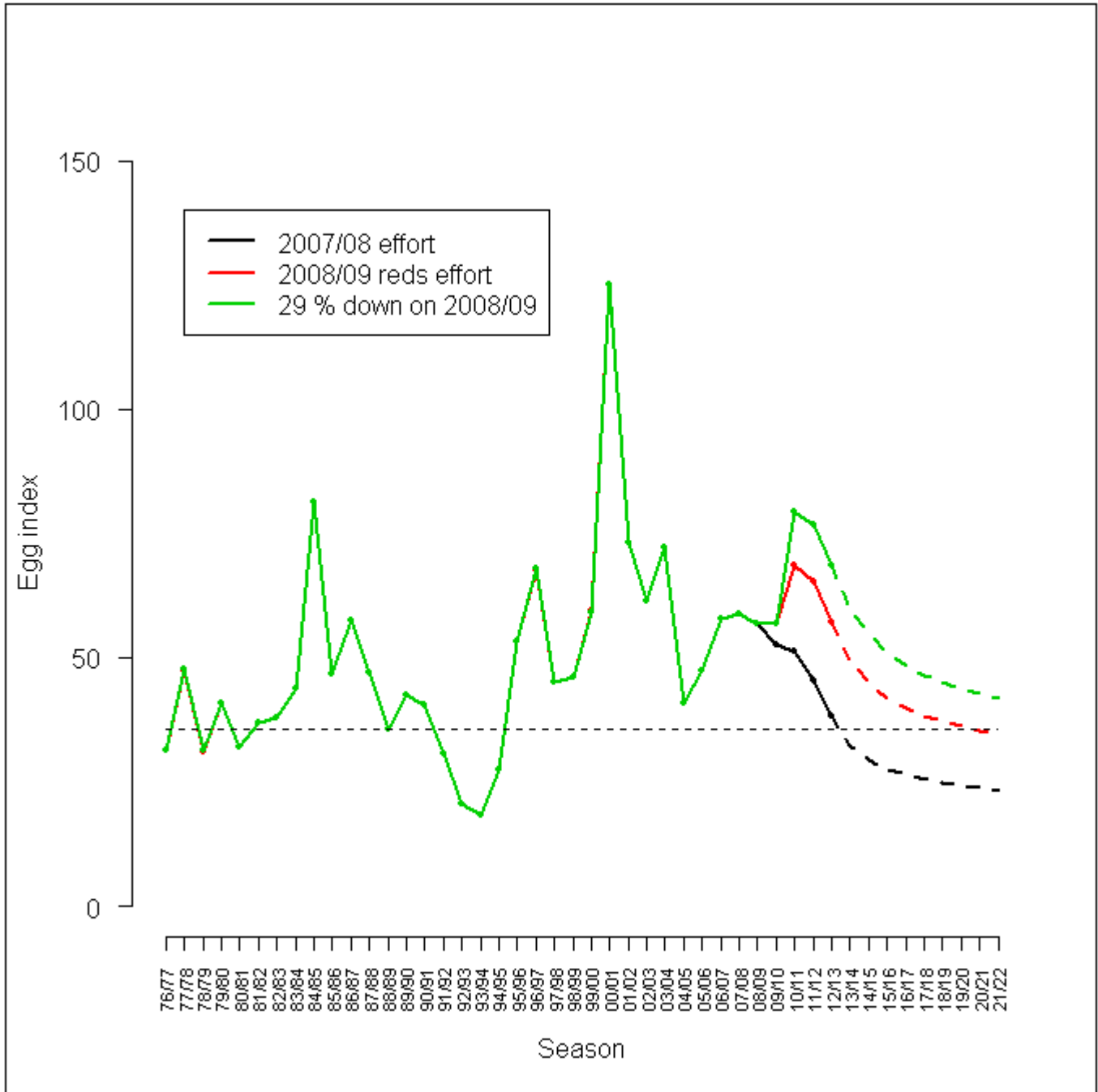


Figure 3: Model derived breeding stock Index for C Zone. Solid lines represent estimates based on known levels of settlement to date (where we will go). Dotted lines represent the continuation of these effort scenarios assuming future puerulus settlement remains at 2008-09 levels.

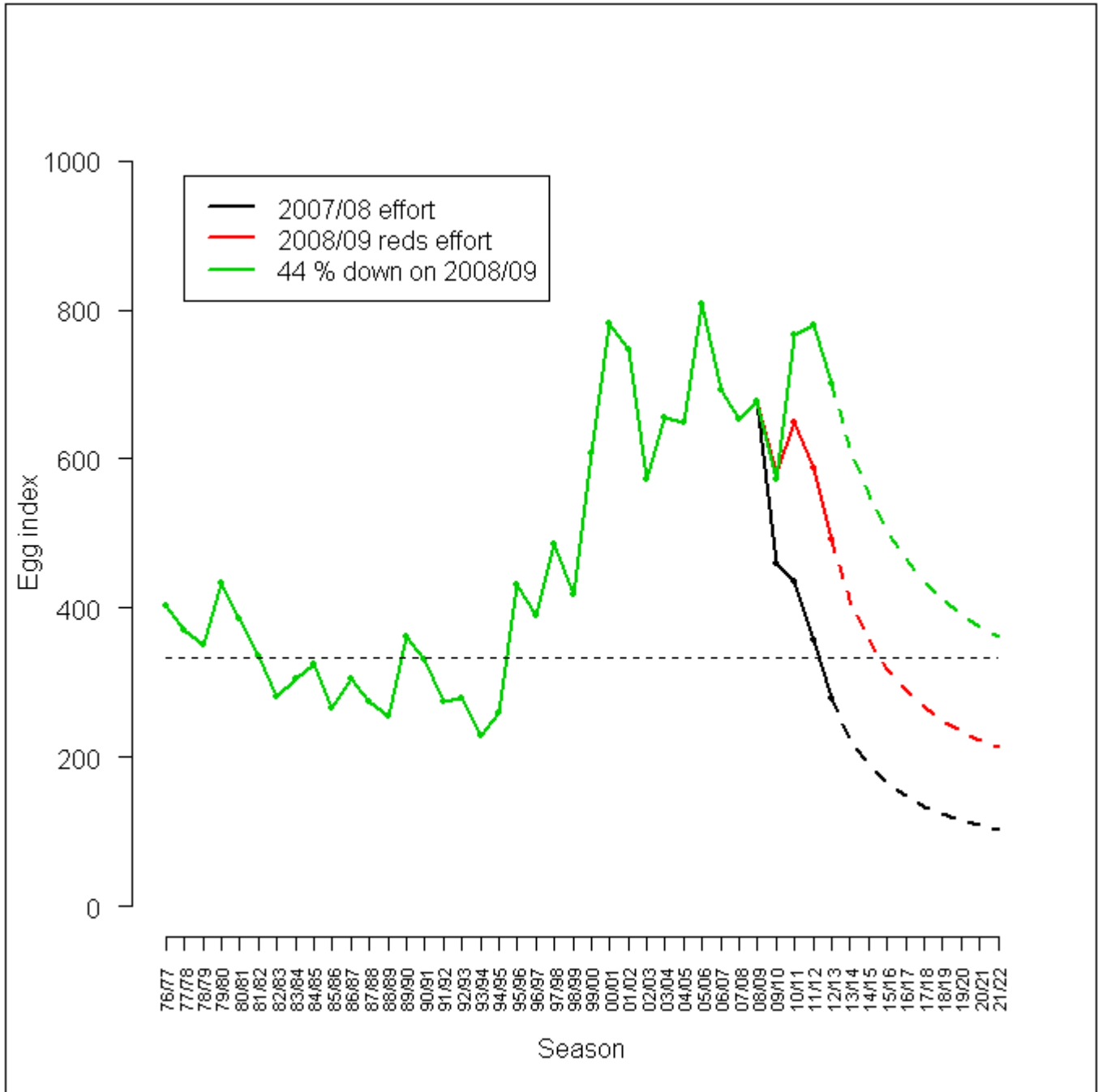


Figure 4: Model derived catch predictions under differing effort regimes in A, B and C Zones. The catch at the effort level required to maintain breeding stock above the threshold indefinitely assuming continuation of 2008-09 puerulus settlement is illustrated by the blue line for A Zone and by the green lines for B and C Zones. The green line in the A Zone graph shows the predicted catch under the preliminary proposed RLIAC package.

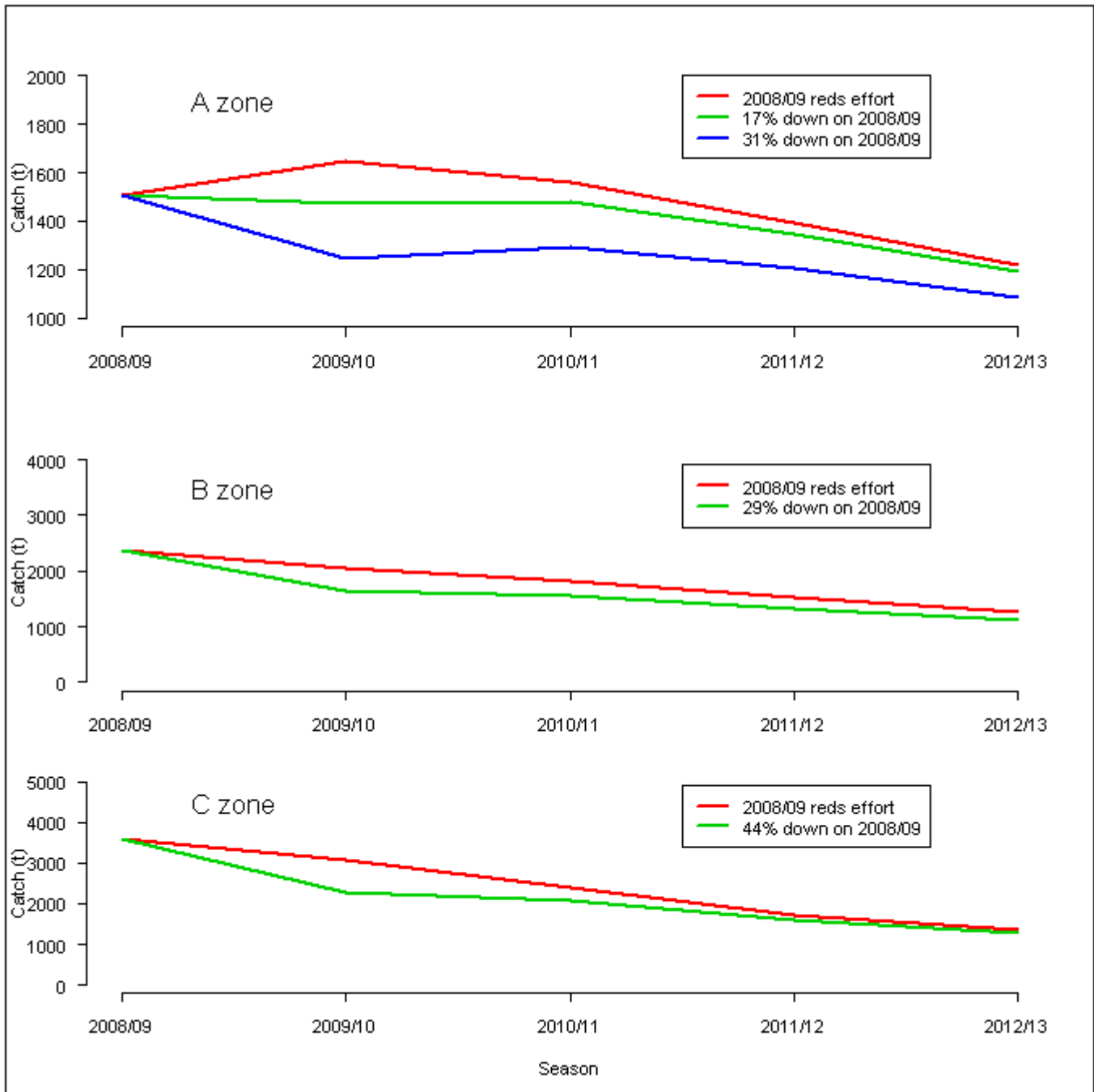


Figure 5: Model derived catch per unit effort (i.e. catch per pot lift) under varying effort regimes for A, B and C Zones. The catch per pot lift at the effort level required to maintain breeding stock above the threshold indefinitely assuming continuation of 2008-09 puerulus settlement is illustrated by the blue line in the A Zone graph and by the green line in the B and C Zone graphs. The green line on the A Zone graph shows the predicted catch per pot lift under RLIAC’s preliminary proposed management package.

