Lifecycle

- Spawning: Nov-Feb
- 9-11 month larval phase 100s km offshore
- Puerulus (small juvenile) settlement – Aug-Dec
- Strong Leeuwin Current = good settlement
- Enter fishery 3-4 years after settlement
Puerulus Settlement

[Map image showing zones A, B, and C with labeled locations such as Coral Bay, Point Quobba, Port Gregory, Dongara, Jurien, Lancelin, Alkimos, Warnbro, and Cape Mentelle.]

[Image of a puerulus collector device with a buoy floating in the water.]
Puerulus Settlement

- Varies with changing water temperature
Current Puerulus Settlement

• Early in this years settlement
• Do not expect a big settlement
Deepwater settlement?
Meshed Pot sampling

Catch rate of lobsters <= 60 mm

Catch rate of lobsters > 60 mm

Lobster / potlift

Deepwater settlement?
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Effect of Low Puerulus Settlement

- 2008/09 settlement lowest ever in 40 years
- 2006/07 & 2007/08 also below average
- Settlement becomes the catch in 3 - 4 yrs time
- Very poor catches predicted for 2011/12
- In these years fishing pressure would be focused on the breeding stock
Future Egg Production

- Overall egg production is well above thresholds

- Some concern in certain areas (very northern end of the fishery)

- Requires significant effort reductions to remain healthy

Southern zone example

Spawning year

Model-derived egg index

Threshold

Limit

With reductions

Without reductions
The Department has begun a number of new research initiatives in response to the recruitment failure:

• Monitoring lobsters in the Big-Bank region.

• Identifying factors that may have affected puerulus settlement in recent years.

• Expanded sites where puerulus monitoring is completed

• Evaluating source-sink relationships of lobsters using oceanographic modelling.

• Evaluation of population genetic structure of lobsters.

• Evaluating changes to harvest rates and efficiency increases in the lobster fishery.

• Examining the settlement patterns of other invertebrate species