

Submission

Draft Coastal Management State Environmental Planning Policy

From:

Dr Graham Chaffey

**26 Second Av
Arrawarra Headland
NSW
2456**

Resident Owner

Coffs Harbour City Council

Arrawarra1@westnet.com.au

0266549096

The Focus of this Submission

Coastal Vulnerability Area

Specific Issues to be Addressed:

*The impact of the proposed legislation on existing residents in the proposed Coastal Hazard Zones
(By way of a case study of Arrawarra Headland,
Coffs Harbour City Council)*

About the Author

Dr Chaffey has two research degrees (both quantitative in nature). One in industrial chemistry (first class honours degree, UNSW, 1972) and the other through a PhD (UNE) in Educational Psychology (2002). Dr Chaffey is highly qualified in scientific method, research methods, validity (and reliability) and ethical use of scientific data. Dr Chaffey's PhD research is nationally and internationally recognised.

Introduction:

I have been an owner of a home and land on Arrawarra Headland (26 Second Av, Arrawarra Headland) for the past 38 years. Arrawarra Headland is situated in the northern end of the Coffs Harbour City Council (CHCC) area.

Over the past 2 years I have been active in the Arrawarra Headland Community Group (AHCG) as co-leader. Our purpose has been to present our communities concerns regarding the CHCC's proposed Coastal Hazards Planning Controls. AHCG apposed a number of aspects of the above CHCC proposal.

The NSW State government's current Draft Coastal Management State Environmental Planning Policy will rely on a number of aspects already operationalised by the states local councils. I strongly suggest that these completed tasks need to be examined in two ways.

1. Are they valid (do they tell the truth)
2. Are they ethically applied

As a way of highlighting a number of concerns in the proposed CHCC Coastal Hazards Planning Controls I will use Arrawarra

Headland as a case study. I believe similar concerns exist all through the CHCC area (and, extrapolating, across the states coastal councils).

The Issues

1. Placement of Immediate, 2050 and 2100 Hazard lines

In the CHCC's proposed Coastal Hazards Planning Controls that was defeated in Council and put on hold in December 2015, the placement of the Immediate, 2050 and 2100 hazard lines is interesting to say the least.

The proposed Immediate Hazard line for Arrawarra Headland (where inundation and/or erosion can be expected immediately) includes most bay front properties.

The reaction of residents was uniform.

They were not devastated by the prediction that their properties were about to be inundated. They were angry/amazed/confused that anyone could think that this was the case.

Consider these issues as they relate to Arrawarra Headland:

- a. *Arrawarra Headland is composed of "... sand and soft rock" (Svikis Report to CHCC)*

Arrawarra Headland is described in council documents as being composed of "... sand and soft rock". This is a factual error. If this were so erosion would be immediate and devastating. In fact, our headland would have disappeared many years ago.

Our headland is composed of a thin layer of soil overlaying heavy red clay. I assume that bedrock will underlay this as in most soil profiles. There does exist a soft rock section on the far northern end. This represents a small percentage of the bay front. However, little if any

sand is present. CHCC has agreed to do a geotechnical survey of Arrawarra Headland. However, one year later nothing has been done. We still remain in the Immediate Hazard line.

b. *History*

- Aerial photographs taken of Arrawarra Headland in the middle 1940's and 2010 are identical with respect to the structure of the headland. The only difference being in the vegetation and some buildings. Erosion over this period has been insignificant.
- In that 70 year period Arrawarra Headland has been subjected to at least one Tsunami, many severe east coast lows, a number of category 1 cyclones and giant swell on many occasions. The result has been insignificant erosion and minimal inundation. No homes have ever been impacted by erosion or ocean inundation.

c. *What has Council Not Considered?*

- *A Natural Breakwater*
The north-eastern end of Arrawarra Headland is adjoined by an extensive, very hard shallow rock platform that is totally exposed at low tide. This acts as a giant natural breakwater mitigating much of the power of the large swells that accompany extreme weather.
- *The Natural Curvature*
of the Bay and northern coastline also protects Arrawarra from much of the large swell and tidal surges. Some extreme northern swell can still sneak in as happened in 2016. Result? With the largest northerly swell seen in 50 years and a king tide erosion was insignificant. There was no damage to any home by ocean driven erosion or inundation.
- The rock platform (above) extends below the sand around the bay, right up to the sand/headland interface. The rock is very hard and only a metre or so below the sand. This limits the amount of sand that can shift in extreme conditions.

– *A Natural Seawall*

A natural deposition of medium to large sized rock has accumulated at the interface of the high tide mark and the Bayfront. This is a natural sea wall which also protect against erosion.

d. *Current Sea Level Rises*

It is worth noting that currently sea level rises on the Australian eastern sea board (as measured at Fort Dennison) are on the bottom end of expectations. These are long term outcomes. Over the last 3 years the data from Coffs Harbour have actually shown a small decrease in sea levels.

e. *Projected Sea Level Rises.*

CHCC has used projected sea level rises to develop the Immediate, 2050 and 2100 Hazard Lines. There were a number of sea level projections available ranging from the extreme to more moderate levels. The .4m (2050) and .9m (2100) sea level rises adopted by CHCC are well into the upper end and when one considers existing sea level rise data they are outrageous.

CHCC have chosen an estimate approaching the extreme end. Why?

These estimates can only be considered rough guesses due to the number of natural and manmade variables at play.

As time goes on the validity of those estimates will decline. That is, the truthfulness of these estimates is gradually lost. This is especially true when multiple uncontrolled (natural) variables are involved.

Using these data as if they are fact is ethically unacceptable.

This is not ethical or acceptable use of the 'science'.

Further Ethical Considerations

When a decision is made that will seriously damage a community some deep soul searching needs to be done before proceeding. When it is made on the basis of proven or observable facts it will be hard enough. However, when such a decision is made on data whose validity are questionable, serious ethical questions arise.

2. Proposed CHCC Planning Controls Imposed on Properties in Hazard Lines

The use of extreme, rough estimates to create hazard lines is bad enough but what follows is jaw dropping.

The proposed planning controls for those in the Immediate Hazard Line include:

- E 2.2 "To ensure the impact of coastal processes on potential development is minimised by acknowledging and avoiding risks, limiting development, avoiding intensification and ensuring any appropriate development is only temporary, relocatable and/or adaptable"**

E 2.2/3 "Where development consent is granted for development of land seaward of the Immediate Hazard Zone as shown on the Coastal Hazard Map, it shall be conditional that if the erosion escarpment approaches within 20 metres of any habitable building subject to the consent, then the use or occupation of the habitable building will cease."

E 2.2/4 “If the use or occupation of a habitable building is required to cease in accordance with requirement 3 of this control, the owner(s) of the land is responsible for the demolition, removal from the site or relocation within the site of any habitable building that is within 20 metres of the erosion escarpment.”

Put Simply:

If our home is seaward of the Immediate Hazard Zone we can expect:

- *temporary homes if we wish to develop our home*
- *If the high tide mark reaches 20 metres from our home (new development) we must move out*
- *We are also responsible for removing our home from the site.*

The implications of these conditions are obvious.

To impose such conditions on existing residents you must be **ABSOLUTELY SURE** that the hazard lines represent the truth.

3. A fine-grained view of the Hazard lines. Case Study: 26 Second Avenue, Arrawarra Headland.

- 26 second Av Arrawarra Headland has half (approx.) of its land in the Immediate Hazard Zone with the other half outside all hazard lines.
 - A contour map shows that the block ranges from 9 to 11 metres above the high tide line (CHCC uses 7m as the potential inundation level)
 - The block is approximately 60 metres from the high tide line
 - Due north of the block the previously mentioned rock platform stands. It extends approximately 80 m west and 200m east and 100m north. Large swells never reach the headland close to the house.
 - The block consists of thin soil with heavy red clay beneath. Rock is exposed within 30m of the block suggesting a rock basement.
- Is there any doubt about the location of this Immediate Hazard line?

Conclusion:

The key question regarding the Hazard Lines proposed by CHCC were:

1. Are they valid (do they tell the truth)
2. Are they ethically applied

Validity of the Arrawarra Headland Hazard Lines.

Are they Valid? That is, are we sure that their placement is accurate. Do these lines represent the truth?

For Arrawarra Headland there must be serious doubts about the validity of the proposed placement of the Immediate, 2050 and 2100 Hazard Lines.

Ethical Use of the Data

Developing estimates of global temperature (leading to sea level rises) must be a very uncertain task due to the interaction of numerous natural variables as well as manmade variables.

When these estimates are over long periods of time they become very uncertain indeed.

Using uncertain estimates to establish long term hazard lines is an abuse of the science used to establish the estimates. Further, using these Hazard lines of uncertain validity to then impose long term immediate unfavourable conditions on home owners is not only unfair, it is totally unethical. This flies in the face of both the CHCC and NSW State Government policies on 'Ethical Behaviour'.

If planning and development conditions are to be imposed on current residents by the positioning of the Immediate Coastal Hazard Zone (as presented on pages 5 and 6) then CHCC must be CERTAIN that these hazard lines are valid.

In the case of Arrawarra Headland this cannot be so.

Finally:

- **The Immediate, 2050 and 2100 Hazard Lines proposed for Arrawarra Headland do not truthfully represent the risks to residents. These lines are of doubtful validity at best. I would suggest they are invalid.**
- **Using what can only be rough estimates to create hazard line that will immediately, negatively impact on numerous residents on Arrawarra Headland is unethical use of the scientific data. It is also unethical behaviour by CHCC.**

No ifs, no buts.

- **I request that the NSW State Government acts to prevent the unjust outcomes evident at Arrawarra Headland.**

