

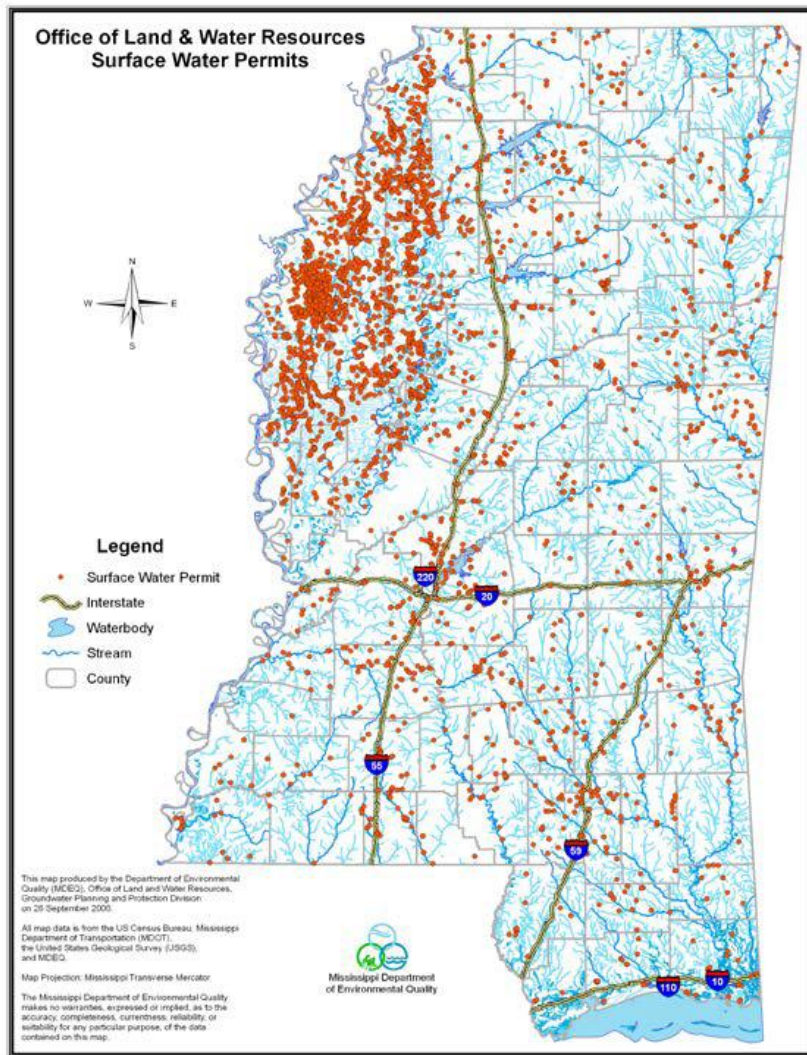
Uncertainty & Certainty in Mississippi's Instream Flow Program

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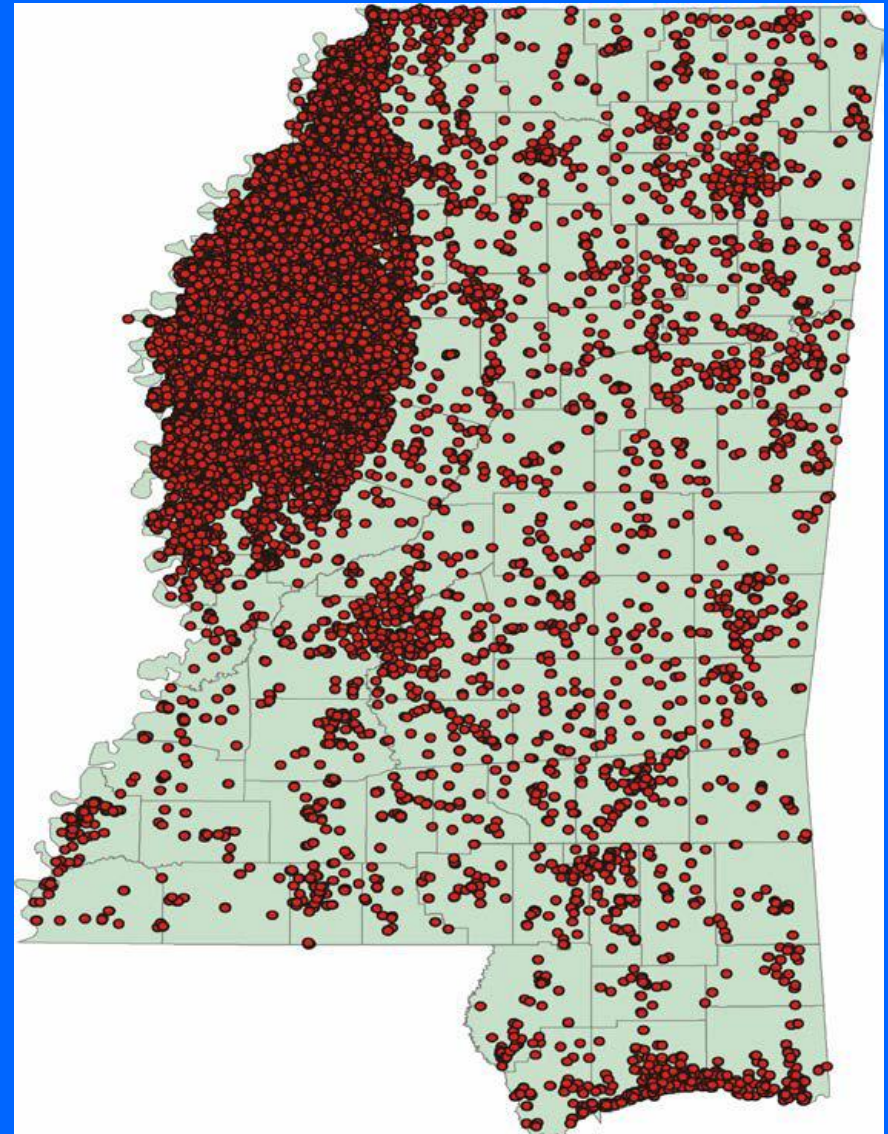
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Surface Water Permits



Ground Water Permits



Certainty:

- ▶ free from doubt, reservation, suspicion, wavering
- ▶ quite sure, exact, precise
- ▶ inevitable, dependable
- ▶ established as true
- ▶ fixed or agreed upon, settled, stated
- ▶ marked by complete assurance & conviction

Synonyms – assured, confident, positive

Uncertainty:

- ▶ not confident or assured
- ▶ not precisely determined
- ▶ not dependable
- ▶ vague or indistinct
- ▶ problematical
- ▶ open to doubt, questionable
- ▶ ambiguous, unpredictable,
- ▶ undecided, hesitant, tentative,
fickle, variable

Synonyms- indefinite, unsure, doubtful, suspicion, skepticism, mistrust

Mississippi uses 7Q10

Until 1994, only one method, 7Q10 could be used by MDEQ to establish minimum flows (MS State Law 51-3-3)

Certainty – method was stated

Uncertainty – what was 7Q10?

Certainty – MDEQ desired/needed to use other methods

Uncertainty – what methods to use?

7Q10

Is the lowest stream flow for 7 consecutive days that occurs once every 10 years.

It is a flow used by wastewater engineers to set standards for the dilution of waste water.

That is it's only valid use.

7Q10

This method does not protect aquatic life and its use as a standard to do so is inappropriate. (Camp, Dresser and McKee 1986)

Making such a low flow the norm is like recommending the sickest day of your life as a satisfactory level for future well being (IFC 2002).

7Q10

The 7Q10 flow for some streams can be zero.

It cannot be used on streams with altered hydrographs (dams) or on tidal streams.

Since 1975 minimum flows have not been set for Delta streams due to altered hydrographs.

Leaf River – 7Q10 Flow - 56 cfs (7-19-00)



Leaf River — 443 cfs (4-21-02)



Mississippi uses 7Q10

Certainty – 7Q10 is not an instream flow method

“How much water do you need for fish and wildlife?”

Certainty – we need other methods

Uncertainty – what methods to use?

Uncertainty - caused us to be vague

1994 Revised Law (51-3-3)

Now 7Q10 or any generally
accepted scientific method can be
used.

The MDEQ shall consult with and
consider recommendations made
by the MDWFP.

Uncertainty led to flexibility and
consultation.

1994 - 2015

MDWFP Position: 7Q10 is bad

Uncertainty: what to use?

Response: refer to literature

- ▶ Use a Precautionary, Presumptive, Simple Desktop Method
- ▶ Allow withdrawals up to 20% of daily flow to minimize impacts on fisheries.

2015

MDEQ Limits Surface Water Use
by Fracking Industry in Southwest
MS to:

No more than 20% of median daily
flow using drainage area ratio to
compute flow at ungaged sites.

★ **First use of another method in
Mississippi besides 7Q10** ★

Instream Flow Criteria: Policies and Practices

None or 7Q10	Statewide Criteria			Site-specific criteria on priority rivers	
	% Low Flow	Seasonal Thresholds	Percent of Flow	Limiting Habitat	Percent of Flow
AL KY LA MS MO OK TX WV	NC TN	AR GA SC	MS	FL GA KY NC TN TX VA	FL KY TN VA

Increased level of flow protection?

Where Are We?

Rating of State Programs

National Instream Flow

Program Assessment (1995)

Legal – High

Institutional – Low

Public Involvement – Low

Physical – Low

Hydrological – Low

Biological – Low

Where Are We?

35-52 foot decline in Delta aquifer

“We cannot continue with business as usual and expect the water to be available.”

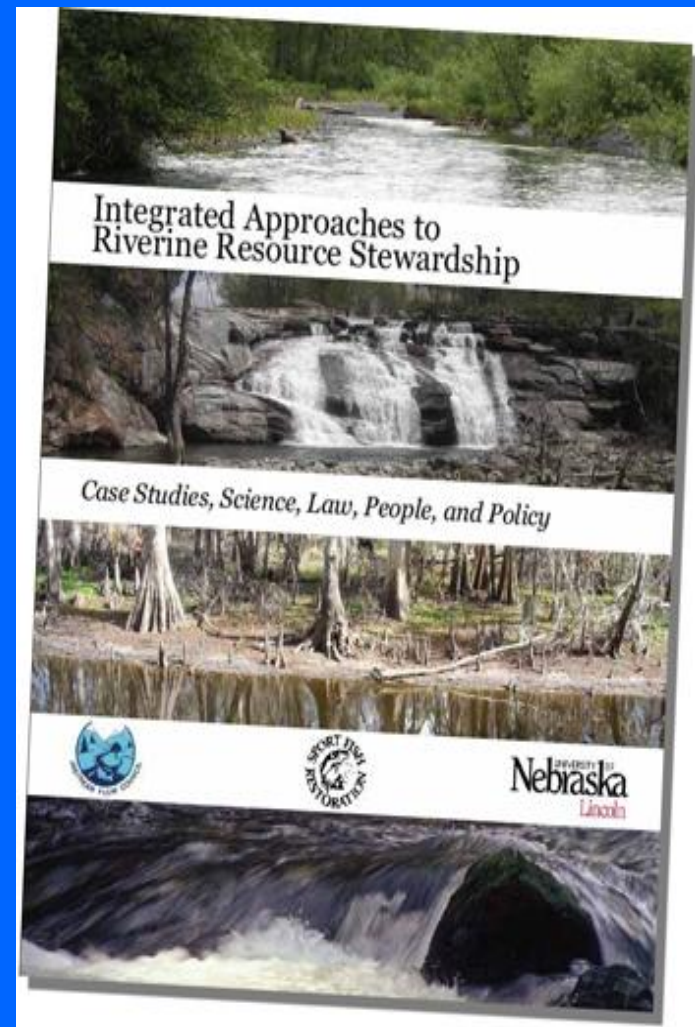
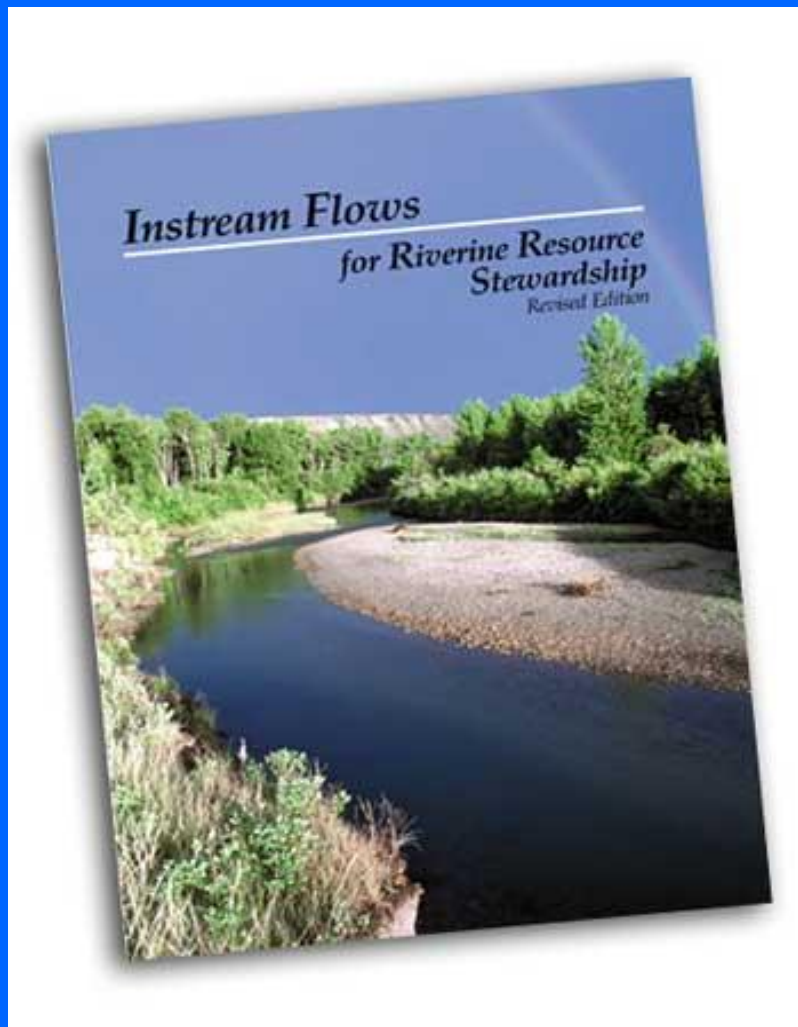
“Status quo is not sustainable.”

“Changes must be made to ensure a reliable source of water for current and future generations.”

Kay Whittington

Office of Land and Water Resources, Director
Mississippi Department of Environmental Quality

Good Resources



www.instreamflowcouncil.org