

# **A (draft) STRATEGIC VISION FOR INSTREAM FLOW PROTECTION IMPLEMENTATION**

**As provided by RSA 483:9(c)**

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**Paul Currier, P.E., P.G., Watershed Bureau Administrator  
Wayne Ives, P.G., Instream Flow Specialist  
Rivers Management & Protection Program  
N.H. Department of Environmental Services**



I. The commissioner, in consultation with the advisory committee, shall adopt rules under RSA 541-A specifying the standards, criteria, and procedures by which a protected instream flow shall be established and enforced for each designated river or segment. Each protected instream flow shall be established and enforced to maintain water for instream public uses and to protect the resources for which the river or segment is designated, and shall respect riparian interests on each designated river or segment consistent with the purposes of this chapter. Instream public uses shall include the state's interests in surface waters, including, but not limited to, navigation; recreation; fishing; storage; conservation; maintenance and enhancement of aquatic and fish life; fish and wildlife habitat; wildlife; the protection of water quality and public health; pollution abatement; aesthetic beauty; and hydroelectric energy production.

IV. The protected instream flow levels established under this section shall be maintained at all times, except when inflow is less than the protected instream flow level as a result of natural causes or when the commissioner determines that a public water supply emergency exists which affects public health and safety.

V. The maintenance of protected instream flows shall constitute a condition of any permit issued by the department for any project or activity within a designated river or segment and corridor.

# ISF Protection Goals

All boil down to a few things

- Human uses (recreation, PWS, hydropower)
- Aquatic Life (=Fish, mostly)\*
- Riparian wildlife and vegetation (RTE, unique ecosystems)\*

\*Biological Integrity - the ability of an aquatic ecosystem to support and maintain a balanced, integrated, adaptive community of organisms having a species composition, diversity, and functional organization comparable to that of similar natural habitats of a region.



# Some Protected Entities (IPUOCRs)

- Hydrology
- Cultural resources
- Water quality
- Pollution
- Aesthetic beauty
- Fisheries
- Public water supply
- CWA Designated Uses
- Open space
- Geologic resource

## Human uses

- Recreation
- HE energy production
- Agriculture

## Biological Integrity

- Natural resources
- Storage
- Wildlife
- Fish & wildlife habitat
- Vegetation
- Rare species or habitat
- Aquatic life and fish

# IMPORTANT POINT

- PISFs for designated rivers are the same as PISFs under Water Quality Standards

EXCEPT

- The list of IPUOCRs under RSA 483 is longer than the list of Designated Uses

BUT

- The IPUOCR analysis of pilot studies shows that the flow dependent IPUOCRs  $\leq$  Designated Uses

# PISF methods

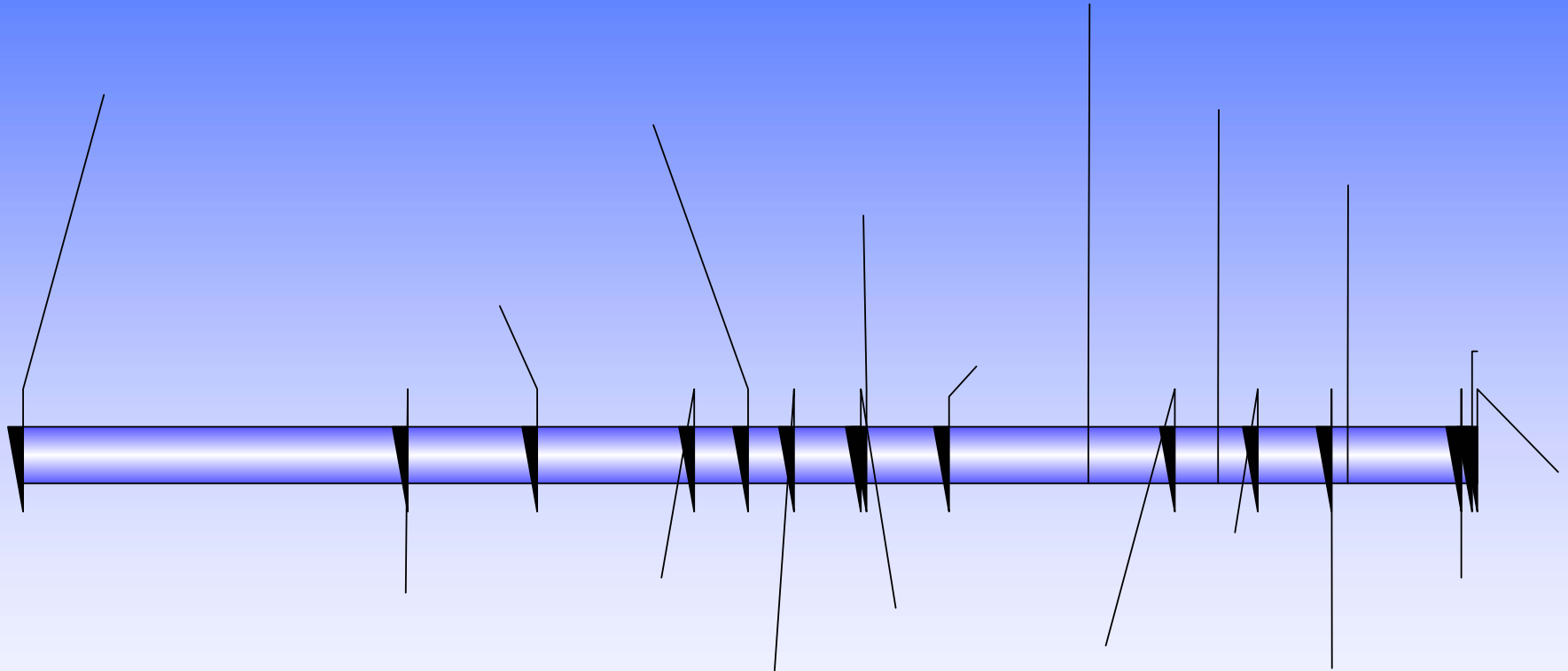
- Standard Setting
  - Seasonal minimum flow (NE ABF)
  - Seasonal turn down / turn off (Qvalues)
- Incremental, River-Specific
  - PHABSIM
  - MESOHABSIM\*

# PISF CONCEPTS

- Single-valued minimum flows
  - What RSA 483:9(c) implies (1990)
- Natural Flow Paradigm
  - Poff et al (1997)
- Natural Flow Paradigm with Continuous Under Threshold limits\*
  - Parasiewicz (circa 2000)



# TIMELINE



6/26/1990  
Legislature adopts  
ISF for designated  
rivers

# THE FUTURE

- 2011 Pilot Water Management Plans
- 2013 Legislative review
- 2014 web-based streamflow reporting tools for designated rivers
  - Machinery to implement WMPs on pilot rivers
- 2013 to several decades later
  - Generalize and extend MESOHABSIM and CUT methods to all designated rivers

# BUILDING ON THE PILOT PROGRAM

- Regional Target fish communities
- Regional bioperiods
- Standardized transects for overbanks
- Extend and generalize MESOHABSIM
  - CUT curves based on general habitat survey and hydrologic record

# RMAC role

“The commissioner, in consultation with the advisory committee, shall adopt rules under RSA 541-A specifying the standards, criteria, and procedures by which a protected instream flow shall be established and enforced for each designated river or segment.”

- Stay involved in WMP implementation for pilots (next 2 years)
- Advocate before legislature for end to moratorium on PISFs for non-pilot rivers
- Support future budgets for RMPP that include PISF administration
  - Keep ISF specialist
  - Reinstate contract \$\$ for studies/ implementation

# KEY CONCEPTS FOR THE FUTURE

- Natural flow paradigm
  - Allowed deviations from natural
- Continuous under threshold limits
  - Stress to aquatic life limited to “natural”
- Coordinated management of watershed storage and withdrawals

# PARTING THOUGHTS

- This is a long-haul process
  - 21 years to date
  - Many more to go
- There is ISF protection in place **RIGHT NOW**
  - DES guidance
  - Informed by RMPP PISF work