

2025 **OCWIP**

Oklahoma Comprehensive Water Plan

Interim Study: Defining Instream Flow or Basin Study



OKLAHOMA Water Resources Board

OKLAHOMA CITY // OCTOBER 17, 2022

// Overview

Oklahoma Comprehensive Water Plan

Instream Flow Advisory Group

Current Instream Basin Study Activities in Oklahoma

Core Elements for ISF Program

Potential Options and Path Forward

// Oklahoma Comprehensive Water Plan Goal:

Quantify water supply gaps, infrastructure, and future needs and recommend balanced solutions to meet Oklahoma's reliability challenges for all sectors...

- Economic development
- Population growth
- Future water needs
- Competing water interests
- Infrastructure needs and costs
- Vulnerability to drought/flooding
- Water for Tourism, Recreation, and Wildlife

Water is foundational for health, quality of life, and economy!



// 2012 OCWP Priority Policy Recommendations

Infrastructure Financing

Conservation, Efficiency, Reuse

Water Monitoring

Supply Reliability

Fish & Recreation Flows

Excess/Surplus

State/Tribal Resolution

Regional Planning

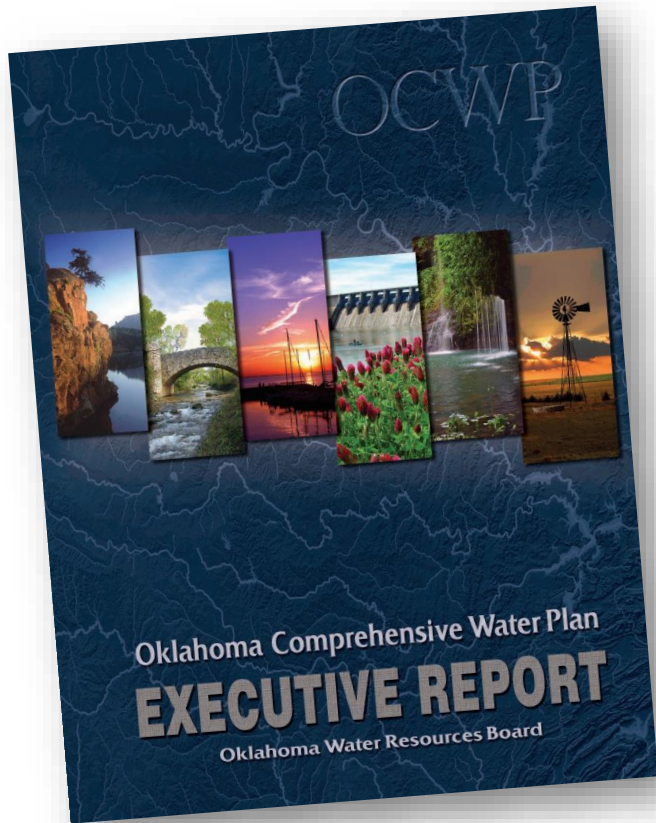
// 2012 Ok. Comprehensive Water Plan Recommendation Fish & Recreation Flows

- Recognized non-consumptive flows help support downstream environment, social, and economic benefits
- Called on diverse ISF Advisory Group to assess suitability and structure of an in-stream flow program
- Ultimate goal—better understand benefits and implications of an ISF program, consistent with overall goal of managing water resources for multiple uses

// ISF Advisory Group Organizations

- Oklahoma Dept. of Agriculture, Food and Forestry
- Oklahoma Dept. of Environmental Quality
- Oklahoma Dept. of Wildlife Conservation
- Oklahoma Department of Tourism and Recreation
- Oklahoma Conservation Commission
- Ok. Secretary of Energy & Environment
- Oklahoma State Chamber of Commerce
- City of OKC Water & Wastewater Utilities
- U.S. Fish & Wildlife Service
- U.S. Geological Survey
- U.S. Bureau of Reclamation
- The Cherokee Nation
- Oklahoma Farm Bureau
- Oklahoma Rural Water Association
- Oklahoma Municipal League
- Ok. Independent Petroleum Alliance/Ok. Oil and Gas Assn.
- Oklahoma Cattlemen's Association
- Environmental Federation of Oklahoma
- The Nature Conservancy
- Oklahomans for Responsible Water Policy
- Sierra Club

// Defining ISF (or more broadly, nonconsumptive uses)



2012 OCWP EXECUTIVE REPORT

“Flows necessary to provide for a healthy ecosystem and support water-related recreation (such as fishing, hunting, swimming, and boating) as well as tourism.”

UPPER ILLINOIS ISF PILOT STUDY

“ISFs are the amount of water flowing in a stream at all times, necessary to sustain instream resource values at an **acceptable level**. Instream resources include fisheries, wildlife, water quality, recreation, aesthetics, and the ecological processes that support these resources.”

Words in the definition may need defining!

Texas Example

An environmental flow is an amount of water that should **remain** in a stream or river for the benefit of the environment of the river, bay, and estuary, **while balancing human needs**.

"Environmental flow regime" means a schedule of flow quantities that reflects seasonal and yearly fluctuations that typically would vary geographically, by specific location in a watershed, and that are **shown to be adequate** to support a **sound ecological environment** and to **maintain** the productivity, extent, and persistence of key aquatic habitats in and along the affected water bodies.

Colorado Example

ISF means any water, or water rights appropriated by the Board for preservation of the natural environment **to a reasonable degree**, or any water, water rights or interests in water acquired by the Board for preservation or improvement of the natural environment **to a reasonable degree**. "ISF" includes both instream flows between specific points on a stream and **natural surface water levels or volumes for natural lakes**.

// Current Instream Basin Study Activities in Oklahoma

Ongoing activities across Oklahoma supporting monitoring and management of ISF

Illinois Pilot Study

- Science
- Process
- Considerations
- Other States
- Path Forward

2025 OCWP

- Future Planning
- Supply/Demand
- Quantitative
- Qualitative

Settlement Agreement

- Multiple Party Collaboration
- Negotiation
- Specific basins

Blue River Socioeconomic Study

- Ecologic services
- Economics
- Example of additional information

// Upper Illinois River Pilot Study

Core Elements Considered by ISF Advisory Group — where, what, how, by whom



Administrative Approaches: Numerous Tools Available

- Voluntary conversion/donation of existing right
- Term leases, leasing programs
- Minimum desirable streamflow targets
- Water Reserve/Water Bank/Water Trust
- Permanent acquisition by state or others
- ISF Permit or permit condition
- Education and awareness campaigns
- Water conservation programs
- Water source switch or point of diversion changes
- Targeted conservation infrastructure investment (leak reduction, etc.)

Administrative Approaches:

Existing Legal Mechanisms in Oklahoma

- OWRB Domestic Use Permitting Policy reserves flow for domestic use throughout the basin (6 a.f./160 acres), use max. allowable quantity by default
- Non-consumptive use permits on reservoirs storage (hydroelectric power, navigation, recreation fish wildlife, other)
- Permit limit prohibiting diversions of water from Barron Fork Creek and tributaries in Adair and Cherokee Counties when flows drop below 50 cfs (permits issued after July 1, 2003)
- Appropriation from Scenic Rivers requires consideration of addl. factors (e.g. non consumptive needs and water quality), if available
- Settlement Agreement B basins satisfying conferral trigger- SR criteria
- Reservoir Releases- designated to maintain downstream conditions
- Interstate River Compacts require guarantee of minimum flow coming into and exiting the state for downstream state

Administrative Approaches: Voluntary Mechanisms State-to-State Comparison

Table 3.4 State and NGO Management Activities (from Loehman and Charney, 2011)

Activity	Government Agencies	NGOs
Identifying Priority Streams	CO, ID, MT, OR, WA	AZ, ID, MT ⁽¹⁾ , OR, WA ⁽¹⁾
Improving Storage of Water	CO ⁽¹⁾ , MT, OR, WA	
Improving Water Efficiency	ID, MT, OR, WA	ID ⁽¹⁾ , MT ⁽¹⁾ , OR
Identifying Leases or Rights	AZ, CO, ID, MT, OR, WA ⁽¹⁾	AZ, CO, ID ⁽¹⁾ , MT ⁽¹⁾ , OR ⁽¹⁾ , WA ⁽¹⁾
Negotiating Leases or Rights	AZ, CO ⁽¹⁾ , ID, MT, WA	CO, ID, MT ⁽¹⁾ , OR ⁽¹⁾ , WA ⁽¹⁾
Review of Applications for ISF Rights	AZ	
Stream Restoration	CO, MT, OR, WA	AZ, CO, ID ⁽¹⁾ , MT ⁽¹⁾ , OR, WA
Monitoring Stream Flow	CO, ID, MT ⁽¹⁾ , OR, WA	CO, ID, MT ⁽¹⁾ , OR, WA
Monitoring ISF Rights	CO ⁽¹⁾ , ID, MT ⁽¹⁾ , OR, WA	AZ, ID, MT ⁽¹⁾ , WA
Drought Planning	CO ⁽¹⁾ , ID, MT ⁽¹⁾ , OR, WA	ID, MT
Education	CO ⁽¹⁾ , ID, MT, OR, WA	ID ⁽¹⁾ , MT, OR, WA
Research and Data Collection	CO ⁽¹⁾ , ID, MT, OR, WA	AZ, CO, ID, MT

Notes:

(1) Activities that receive the main emphasis in terms of effort.

Study Criteria & Assessment Methodologies: Considerations for Consistent, Understandable Science

Considerations to establish targets

- Flow/water use trends monitoring and forecasting
- Desktop vs. comprehensive methods
- Balancing consistency, basin-to-basin, while flexible to accommodate localized variation
- Complexity of local issues
- Cost/benefit, and funding availability

Basin Stakeholder Involvement:

Considerations for Basin Advisory Group Composition

- Degree of authority, roles, responsibilities
- Consensus-based recommendations
- Members appointed to ensure diversity of stream water users, representing local basin interests:
 - Agricultural
 - Commercial fishing
 - Cultural and tribal interests
 - Environmental interests
 - Industrial water users
 - Municipalities
 - Energy production and generation
 - Public interest groups
 - Recreational
 - River authorities/water districts

// Upper Illinois River Pilot Study Policy Analyses

No agreement by Advisory Group on definite path forward, but generally agreed that:

- One-size approach wouldn't work
- Need to protect existing water rights
- Quantify amount actually needed to support an instream value
- Quantify economic impact of non-consumptive and consumptive uses to the region
- Common sense, timely, cost-effective
- Voluntary mechanisms could gain consensus by multiple water sectors (water lease/ banking/storage /conservation grants/outreach)
- Funding mechanism needed for studies/solutions

// Potential Path Forward

- State initiative to develop **voluntary mechanisms** that could support flows in particular basins, including water efficiency and infrastructure
- Focus any efforts on **Scenic Rivers** and others with **eco/rec/economic significance** identified by OWRB/ODWC for multi-year monitoring
- In those basins, monitor **water use and flow trends** in lieu of intensive, habitat driven analysis
- In high growth/hot spot areas, conduct **economic impact studies** of consumptive and non-consumptive uses and **ecological studies**
- Any **stakeholder advisory groups represent diverse interests** within the basin; input into goals, regional planning, conservation strategies, incentive packages, etc.
- **Public Awareness Campaigns**- water conservation, stream values
- **Funding** for studies, stream instrumentation, policy investigations, reporting

Thank You.

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