

Integrated Water Management in the Platte Basin

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Integrated Management

- **The Annual Evaluation:** what it does and does not indicate.
- **Integrated Management Planning:**
 - What it entails when no externalities are considered.
 - Integrated management planning in the Platte Basin.
- **Monitoring:** A critical component of every successful IMP.



Annual Evaluation and Report

- The Department reports annually on its evaluation of the expected **long-term availability** of hydrologically connected water supplies.
- Proactive approach in preventing conflicts between surface water and groundwater users (canary in the coal mine).

What is a Fully Appropriated Basin?

(As determined through the Department's Annual Evaluation)

- Water supply is **inadequate to satisfy junior surface water appropriations for irrigation.**
- A fully appropriated determination **does not** necessarily mean that supplies and uses are out of balance.
- If not addressed through a planning process, conflicts will likely result between water users in the future.



Why is Integrated Management Necessary?

- Integrated management is the process of **jointly** (NRDs and the Department) identifying the appropriate path forward to soundly manage the groundwater and surface water supplies as a **single resource**.





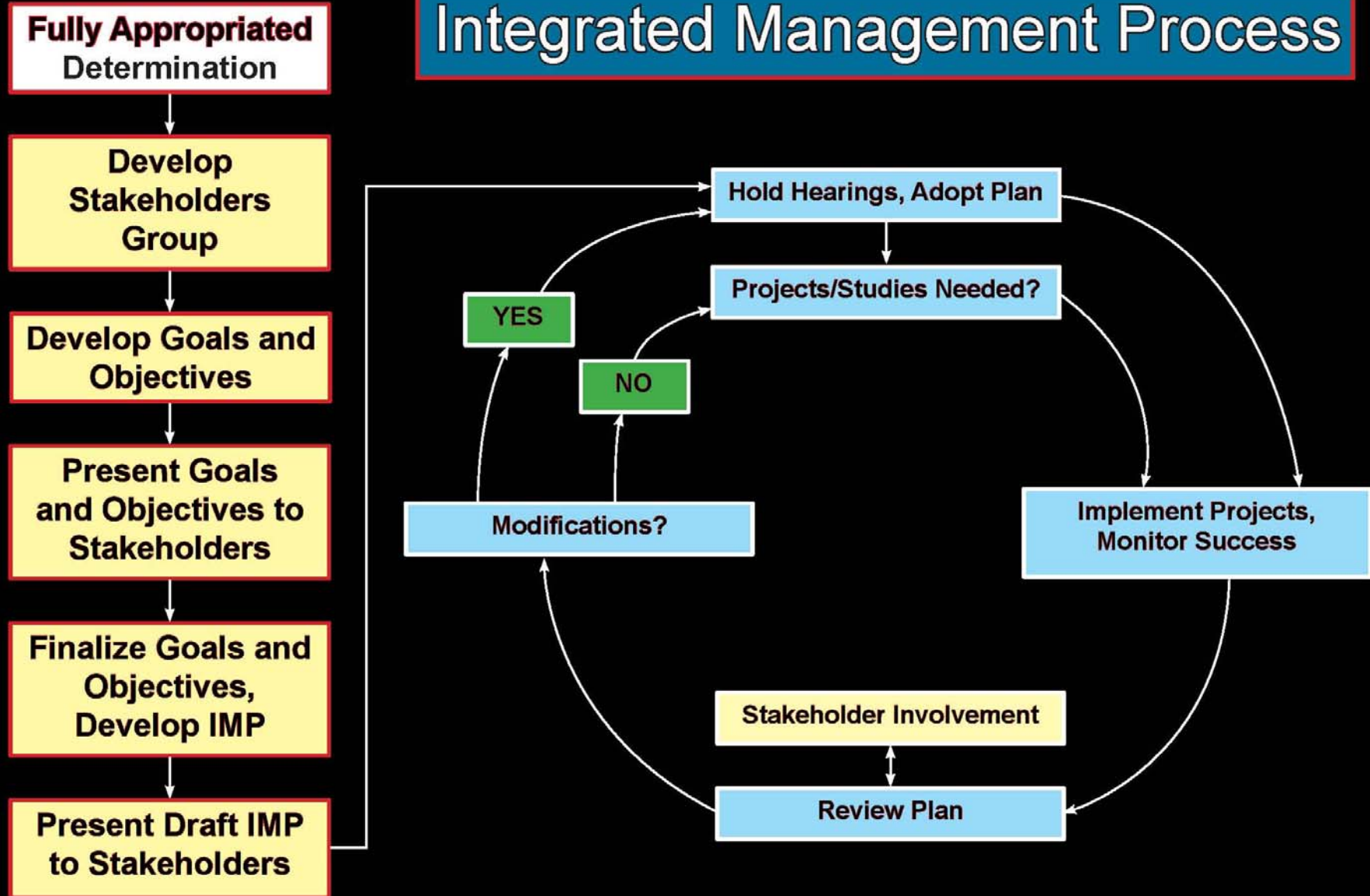
A key goal of an IMP is to...

Sustain a balance between basin supplies and uses...

...to sustain the **economic** viability and **environmental** and **social** health, safety, and welfare of the basin...

...for both the near and long term.

Integrated Management Process



The Platte Basin: Background



- Areas of the following Platte NRDs were designated overappropriated and fully appropriated after the passage of LB962 in 2004:
 - North Platte
 - South Platte
 - Twin Platte
 - Central Platte
 - Tri-Basin
- The IMPs of the North Platte NRD, the South Platte NRD, the Twin Platte NRD, the Central Platte NRD, and Tri-Basin NRD, were adopted on September 15, 2009.



IMPs in the Platte Overappropriated Area

- NE Statute requires an incremental approach in the overappropriated areas.
- An overappropriated basin-wide plan is required in addition to individual IMPs.
- The goal is an ultimate return to a fully appropriated level of use.

IMPs in the Overappropriated Area: Purpose and Goals

- The goals and objectives of the basin-wide plan provide the framework for the OA portions of the IMPs.
- The first increment in the OA area is required to address depletions due to post-1997 development.
- During this increment, the DNR and NRDs may pursue efforts to offset depletions beyond those required.

IMPs in the Overappropriated Area: Purpose and Goals (cont.)

- During the first increment a technical analysis is required to determine whether or not the 1997 level of development achieves a fully appropriated condition.
- There will be additional increments as needed to address any remaining difference between an overappropriated and fully appropriated condition.

PRRIP

- The Platte River Recovery and Implementation Program (PRRIP) has been one consideration in shaping the goals and objectives of the overappropriated area IMPs.
- PRRIP is a basin-wide effort undertaken by the Department of the Interior and the States of Colorado, Nebraska, and Wyoming, to provide benefits for the endangered interior least tern, whooping crane, and pallid sturgeon, and the threatened piping plover.



PRRIP (cont.)



- Through PRRIP, the states and federal government provide land, water, and scientific monitoring and research to evaluate PRRIP benefits for the target species.
- Implementation of PRRIP is incremental. The first increment is 13 years.

Nebraska's New Depletions Plan



- The depletion plan requires mitigation, or offsets, to prevent any new depletion to the river's target flows.
- Each state, including Nebraska, must get back to a July 1, 1997, level of development of water use and associated river depletions.

Current Overappropriated Area IMPs

- The IMPs contain the current best estimate of the balance of post-1997 depletions and accretions to the Platte River.
- The current IMPs contain the framework to completely offset the remaining depletions within the first increment of the IMPs.

Monitoring Components of an IMP

- Developing the necessary tools (studies, models, etc.).
- Determining the impacts of users on the water supply (both within NRD and at a basin scale).
- Continuing to ensure that local priorities are represented.
- Evaluating the long-term effectiveness of the IMP.
- The Platte IMPs contain a comprehensive program of monitoring and studies that will assess the success of the IMPs and guide any modifications or improvements that may be needed.

COHYST

- The Cooperative Hydrology Study (COHYST) is a cooperative effort to improve understanding of the hydrologic and geologic conditions in the Platte Basin upstream of Columbus, NE (<http://cohyst.dnr.ne.gov>).
- A group of Nebraska interests joined together as sponsors and partners to develop scientifically supportable hydrologic databases, analyses, and modeling, which assist in the effective management of the basin's water supplies.



COHYST and the Platte IMPs



- Using COHYST models, the new depletions from development between 1997 and 2005 were estimated.
- Tools developed from the models were used to estimate the accretions from additional management activities implemented after 2005.
 - CREP, EQIP, Water Banking, Elwood Reservoir, etc.

COHYST and the Platte IMPs



- New irrigated acres between 1997-2005
 - Entire COHYST area ~500,000 acres
 - OA area ~70,000 acres
- Total new depletions from 1997-2005 new acres
 - Current ~18,000 AF/yr
 - After 50 years ~26,000 AF/yr
- New OA acres causing ~95% of current new depletions and ~80% of 50-year new depletions



The Path Forward

- An IMP is always a work in progress.
- As more data become available, the Platte IMPs will be reassessed and evolve as needed to accommodate changing circumstances.
- Stakeholders will be involved as changes are made to ensure that the goals and objectives of the plans are sufficient.

Questions?
