

# **Water Law**

## **An Overview and Related Issues**

**Interim Study Committee on the Use, Management and  
Allocation of Water Resources**

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Deputy State Engineers  
October 13, 2005**



# Topics of Presentation

1. State Engineer's Responsibilities
  2. Overview of Nevada Water Law
    - Appropriation Process
    - Maintaining a Water Right
    - Water Right Ownership
    - Ground Water and Surface Water
    - Criteria Used by the State Engineer When Deciding Whether or not to Approve or Deny an Application
  3. Hydrologic Studies
    - USGS
  4. Potential Issues
- Jason
- Tracy



# Mission Statement

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The mission of the Nevada Division of Water Resources is to conserve, protect, manage and enhance the State's water resources for Nevada's citizens through the appropriation and reallocation of the public waters.

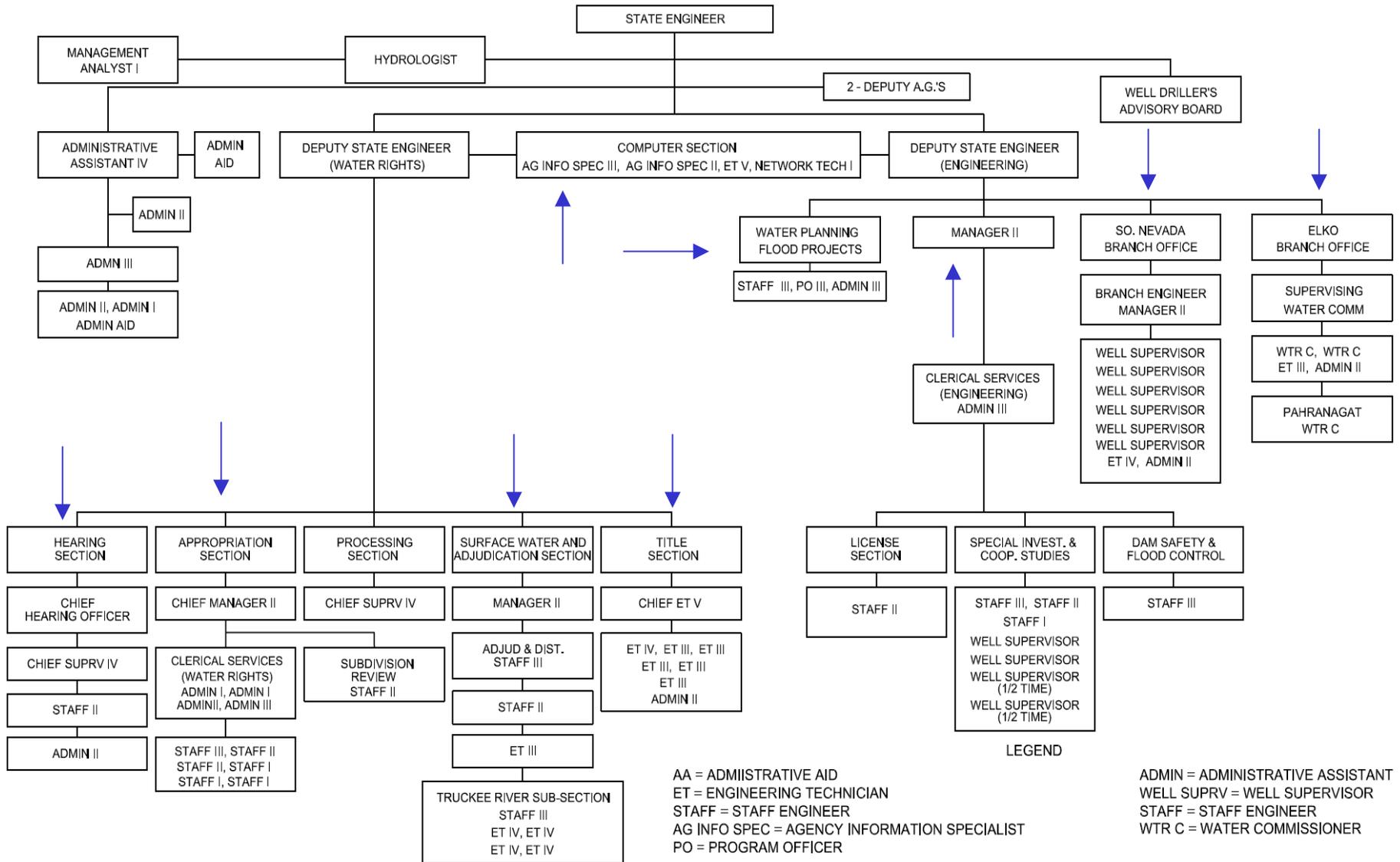


# Nevada Water Law

- Chapter 278 – Subdivision Review
- Chapter 532 – State Engineer
- Chapter 533 – Adjudication of Vested Water Rights; Appropriation of Public Waters
- Chapter 534 – Underground Water and Wells
- Chapter 534A – Geothermal Resources
- Chapter 535 – Dams & Other Obstructions
- Chapter 536 – Ditches, Canals, Flumes & Other Conduits
- Chapter 538 – Interstate Waters, Compacts and Commissions
- Chapter 540 – Planning & Development of Water Resources
- Chapter 543 – Control of Floods

# DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

## \*\*\* DIVISION OF WATER RESOURCES \*\*\*





# APPROPRIATION SECTION

- Review and act on Water Right Applications
- Review and act on Subdivisions statewide
- Domestic Well Credits and Withdrawals
- Certificate Water Rights Based on Beneficial Use
- Review Extensions of Time
- License Water Right Surveyors
- Primary and Secondary Permits



# ADJUDICATION AND SURFACE WATER SECTION

- Conduct Adjudication of Pre-statutory water rights
- Review and act on all Surface Water Right Applications
- Responsible for oversight of the Truckee River Mapping and Title Section
- Field investigate disputes on decreed and non-decreed river, stream and spring sources



# ENGINEERING AND DAM SAFETY SECTION

- **Dam Safety**
  - Review all new dam applications. Review includes proper hydrologic analysis and structural stability.
  - Inspect all dams in the state on a frequency dictated by downstream hazard.
- **Well Driller Activities**
  - License all well drillers in the state
  - Field Inspect well drillers for regulatory compliance
  - Develop and enforce well drilling regulations
- **Recharge Projects**
  - Review all new recharge projects within the state and conduct an annual analysis of existing recharge projects.
  - Currently there are 6 ongoing recharge projects within the state.
- **Oversight of USGS Cooperative Program**



# TITLE SECTION

- Process Reports of Conveyance (transfer of ownership of water rights)
  - Receive ~2000 ROC's per year comprising ~10,000 deeds
- Populate Titles Database to include ownership, diversion rates and duties.



# HEARING SECTION

- **Conducts Administrative Hearings**
  - Applications for appropriation or changes of existing rights (protested or not)
  - Cancelled permits
  - Well Driller disciplinary matters
  - Basin designation or basin regulatory matters
  - Protested requests for extensions of time
- **Review litigation** and assist the State Engineer in court cases
- **Conduct field investigations** as necessary to gather additional information **for administrative hearings**



# WATER PLANNING

- Review and comment on county or regional water plans
- Assist the State Engineer in dealings with the Federal Government and other states
- Provide technical assistance to the Board for Financing Water Projects
- Review and comment on water conservation plans
- Update Drought Plan
- Update Hydrographic Basin Summaries
- Update Water Use Data
- Update Water Plan

**(NRS 540)**



# FLOOD PLAIN MANAGEMENT

- Administer Community Assistance Program
- Administer Flood Mitigation Assistance Program
- Coordinate with Federal Emergency Management Administration
- Coordinate with the Nevada Division of Emergency Management
- Provide general technical assistance



# COMPUTER SECTION

- Responsible for the day-to-day maintenance associated with 80 personal computers, 3 file servers and 4 network attached storage devices
- Responsible for the maintenance of:
  - **Permit Database**
    - 82,000 water right records
    - 40,000 scanned maps
    - 25,000 scanned book records
    - 17,000 scanned certificates
  - **Well Log Database**
    - 90,000 records
    - 90,000 scanned well logs
  - **Titles Database**
    - 33,600 reports of conveyances



# COMPUTER SECTION

- **Web Site**
  - Intranet
    - Staff has access to the water rights database, parcel maps, scanned documents, and the division file tracking system
  - Internet
    - Averages 2,400 hits per day
    - Public access to well log, titles and dam databases
    - Public access to forms, hearing schedules and recent orders and rulings

**The Division will be pushing the water rights database and scanned images over to the internet soon!**



# SOUTHERN NEVADA BRANCH OFFICE LAS VEGAS

- Responsible for
  - Las Vegas Artificial Recharge Program
  - Southern Nevada GIS Program
  - Coordinating the various monitoring plans associated with the carbonate system
- Conducts
  - Groundwater Inventories
  - Water Level Measurements
  - Field Investigations
- Well Drilling Operations in the southern townships
- Subdivision Review in Las Vegas Valley
- Read totalizing meters on all permitted wells twice a year



# **SUPERVISING WATER COMMISSIONER**

**(Elko & Winnemucca Offices)**

- Responsible for the distribution of waters pursuant to State decrees:
  - Humboldt River
  - Little Humboldt River
  - Duckwater Creek
  - Pahrnagat Lake and Tributaries
  - Muddy River
  - Quinn River



# OTHER WORK

- Assist the public with water related issues
- Water level measurements
- Pumpage inventories
- Crop inventories
- Precipitation gauge measurements
- Field Investigations



# Water Law

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# Water Law in Nevada

## Is Nevada's water law perfect?

Nevada's water law is one of the most complete and comprehensive in the West. However changing times and uses of water, can and have required amendments to the water law.



# Water Law in Nevada

## Prior Appropriation Doctrine

- ✓ **First in time, first in right,**
- ✓ **Beneficial use is the limit of the water right,**
- ✓ **Use it or lose it**



# 1 Acre-Foot of Water

- 325,851 gallons; or
- An acre of ground (~one football field) covered with 1' of water; or
- Enough water to supply two families of 4 (depending on outside irrigation) for one year.



# Other Important Concepts

- **Supplemental Rights** – two or more rights used together for an intended use.
- **Comingled Rights** – where more than one source, e.g. s.w. and g.w. or g.w. and effluent, are used together simultaneously for an intended use
- **Preferred Uses** – Manner of uses designated as such by the State Engineer, e.g. Municipal, Commercial etc.



# Who Owns the Water?

All sources of water within the boundaries of the State whether above or beneath the surface of the ground, belong to the public.

**(533.025 and 534.020)**



# The Appropriation Process

All use of water requires a permit from the State Engineer except for domestic wells.  
**(534.180)**



# Domestic Water Wells

- A water right application and permit are **not** required in order to drill a domestic well
  - Domestic purposes as defined under our statutes extends to culinary and household purposes, in a single family dwelling, the watering of a family garden, lawn and the watering of domestic animals **(534.013)**
- The maximum daily draught is limited to 1,800 gallons per day (2.02 acre-feet per year)



# Application Process

## Reader's Digest Version

- File Application, supporting map & fee
- 'Map Table' Review
- Send for publication
- Protest Period
- RFA – Ready for Action
- Hearing if required
- Determination of Action



# Appropriation of Water Rights

- A. File an application, supporting map and the appropriate filing fee with the State Engineer to appropriate surface or underground water rights - **(533.325 through 533.350)**
1. The date and time when the original application is filed establishes its priority – change application retains priority
  2. The supporting map illustrating the point of diversion and the place of use must be prepared and signed by a Nevada State Water Right Surveyor - **NRS 533.080**



# Appropriation of Water Rights

- B. A notice is published in a local county newspaper once a week for four weeks to notify interested parties that an application has been filed
- C. A thirty day protest period will follow the published notice to enable any concerned party the opportunity to file a protest to the proposed appropriation
  - 1. A protest can be filed at any time from the filing of the original application to the completion of the protest period
  - 2. Once the thirty day protest period is completed, only a letter of concern can be submitted to the State Engineer

**(533.360)**



# Appropriation of Water Rights

- D. Once the publication and the protest periods have been completed, the application will become "ready for action" for the State Engineer's decision
1. If a protest is filed, the State Engineer may conduct either a field investigation or an administrative hearing or both.



# Appropriation of Water Rights

## 2. The application can either be:

- approved as requested
- approved with conditions
  - monitoring plan
  - pumpage reporting
  - depth of well
  - reduced in rate of flow and volume
- Denied

(533.370)



# MAINTAINING A WATER RIGHT

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# Maintaining a Water Right

Once a permit has been issued, conditions are imposed in order for that water right to be perfected.

- Time frames for
  - proof of completion of diversion works
  - placing the water to beneficial use



# Maintaining a Water Right

**A water right can be perfected only if**

- the completion of the diversion works is made
- and the water is placed to the beneficial use for which the permit was granted e.g. Municipal, Irrigation, Commercial etc.



# Maintaining a Water Right

By law **(533.380)**, the State Engineer is limited on the amount of time he can give the applicant to file the two proofs:

- A maximum time limitation wherein work must be completed within 5 years and
- The beneficial use completed within 10 years after the date of approval of the permit.

Failure to submit these proofs by the time specified results in the **cancellation** of the water right.



# Maintaining a Water Right

## What if the permittee can't meet these deadlines?

- Extensions of time can be filed **(533.380)**
- The extension must be filed within thirty (30) days from the date of final notice for filing of the proof
- The extension, if accepted, is good for a maximum of 1 year
- Filing fee



# Maintaining a Water Right

## Extensions

The person requesting the extension must submit the reason or reasons as to why an extension is necessary. The State Engineer when reviewing any extension shall consider whether the permittee has been proceeding in good faith and reasonable diligence to complete the work or put all of the water to beneficial use. **(533.395 and 533.410)**

Failure to file this extension of time shall result in the cancellation of the permit.



# Maintaining a Water Right

## Cancellations

Chapter **533.395** was amended in 1981

- To provide an administrative procedure for the review of a cancellation of a permit.
- Opportunity for the permit holder to file a written petition with the State Engineer requesting a hearing to review the cancellation within sixty (60) days of the cancellation. Prior to this administrative review being available, the only remedy a person had when a permit was cancelled was to file an appeal with the court for review.



# Maintaining a Water Right

- The courts have the ability to grant equitable relief, the State Engineer does not.
- Equitable relief has been granted where diligence has been demonstrated and circumstances warranted relief e.g. water was actually put to beneficial use, but the permittee failed to file the necessary paperwork.



# Maintaining a Water Right

## Certificate of Appropriation

Once the proofs have all been filed and the other terms of the permit complied with, the State Engineer prepares a Certificate of Appropriation describing the use to be made of the water as shown on the Proof of **Beneficial Use**. The State Engineer records the Certificate in his office, with a copy going to the permit holder. **(533.425)**

**Beneficial use** - shall be the basis, the measure and the limit of the right to the use of water. **(533.035)**



# Maintaining a Water Right

## Forfeiture and Abandonment

Two (2) ways to lose a certificated water right (**533.060** and **534.090**)

- forfeiture
- abandonment

Until 1999, a surface water right could be forfeited. An amendment to NRS 533.060 removed this provision, which removed any possible forfeiture of a surface water right.



# Maintaining a Water Right

## Abandonment (533.060)

A review of whether or not a surface water right has been abandoned is based on a review of a variety of records within a 10-year period immediately preceding any claim that the water right has been abandoned.

These records include:

- a. That there has been delivery of water;
- b. Payments for maintenance were incurred in the delivery of water;
- c. Payments for costs of capital improvements; or
- d. Maintenance was made as it is related to the delivery of water.



# Maintaining a Water Right

## Forfeiture (534.090)

- Forfeiture of a groundwater right occurs if there is a failure to use the water right for 5 consecutive years.
- Can file an extension of time to prevent forfeiture. Extension must be submitted prior to the 5 consecutive years of non-use.
- The State Engineer is required to give a notice to the owner of record in the State Engineers office after 4 years of nonuse in basins where inventories are conducted.
- The State Engineer may grant any number of extensions of time, but a single extension must not exceed one year.



# Maintaining a Water Right

## Forfeiture

**NRS 534.090 (2)** states in determining whether to grant or deny an extension, the State Engineer must consider among other reasons;

1. Is good cause shown as to why the water could not be put to the beneficial use for which the permit was granted;
2. The unavailability of water beyond the control of the holder;
3. Any economic condition or natural disaster, which would prevent the water being used;
4. If the holder has demonstrated efficient ways of using water for agricultural purposes such as center pivot irrigation; and
5. If any prolonged period in which precipitation in the basin in which the water right is located is below average for that basin (this was added as a condition in 2003).



# Maintaining a Water Right

## Forfeiture

In forfeiture proceedings, the burden of proof is on the person alleging the forfeiture.



# Maintaining a Water Right

All of the previously mentioned criteria requires a decision to be made by the State Engineer. The provisions of NRS **533.450** allows “**any person feeling himself aggrieved by any order or decision of the State Engineer...**” may file an appeal in the proper court of the county “...in which the matters affected or a portion thereof are situated.”

**This appeal to the court must also be served on the State Engineer within 30 days following the issuance of the decision.**



# Water Right Ownership

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# Water Right Ownership

**NRS 533.382 through 533.387** guides the State Engineer in dealing with water right title issues

The State Engineer doesn't assign title, he only confirms the Report of Conveyance (ROC).

The State Engineer, in all notifications, is required to notify the owner of record in the State Engineer's office only. If ROC's are not filed with the office, we have no way of knowing if there has been a change in ownership.



# Water Right Ownership

- Major amendments to statutes in process for changing ownership in 1995 per 1994 interim study.
  - Increased responsibility of private sector
- A water right is considered real property and can be owned separate from the property
- Water rights are an appurtenance to the property and are passed from seller to buyer unless the rights are specifically excluded or reserved on the deed



# Water Right Ownership

- The owner of record noted at the State Engineer's office is the result of filing copies of deeds and a report of conveyance from the permittee to the current owner
  - The assignment of ownership does not occur automatically when a deed is recorded in the county
  - Title companies do not research water right title and they will not issue title insurance on water right ownership.
- The ownership of stock or shares in a ditch company does not constitute ownership of a water right



# Water Right Ownership

## Staff Workload

- Approximately 30% of the Carson City office's staff is devoted to title transfer.
- Approximately 20,000 to 23,000 deeds which represent approximately 5,600 reports of conveyance, remain to be processed.
- Approximately 11,000 deeds and 2,500 reports of conveyances were processed in 2004.



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# Surface Water and Ground Water

# Ground water and Surface Water



**2 Separate Sources**



# Surface Water

Very little surface water was not being used prior to state water law

- Therefore, most surface water has been or will be required to be adjudicated.

Any surface water not claimed as used prior to 1905 has been appropriated pursuant to the current appropriation statutes.



# SURFACE WATER

**\* 4.5 Million Acre-Feet**

**Federal  
Decrees**

**State  
Decrees**

**Civil  
Decrees**

**\*\* Colorado  
River**

**\* Excluding Colorado River, Nevada has approximately 3.2 million acre-feet of runoff within the state, plus 1.3 million acre-feet flowing into the state.**

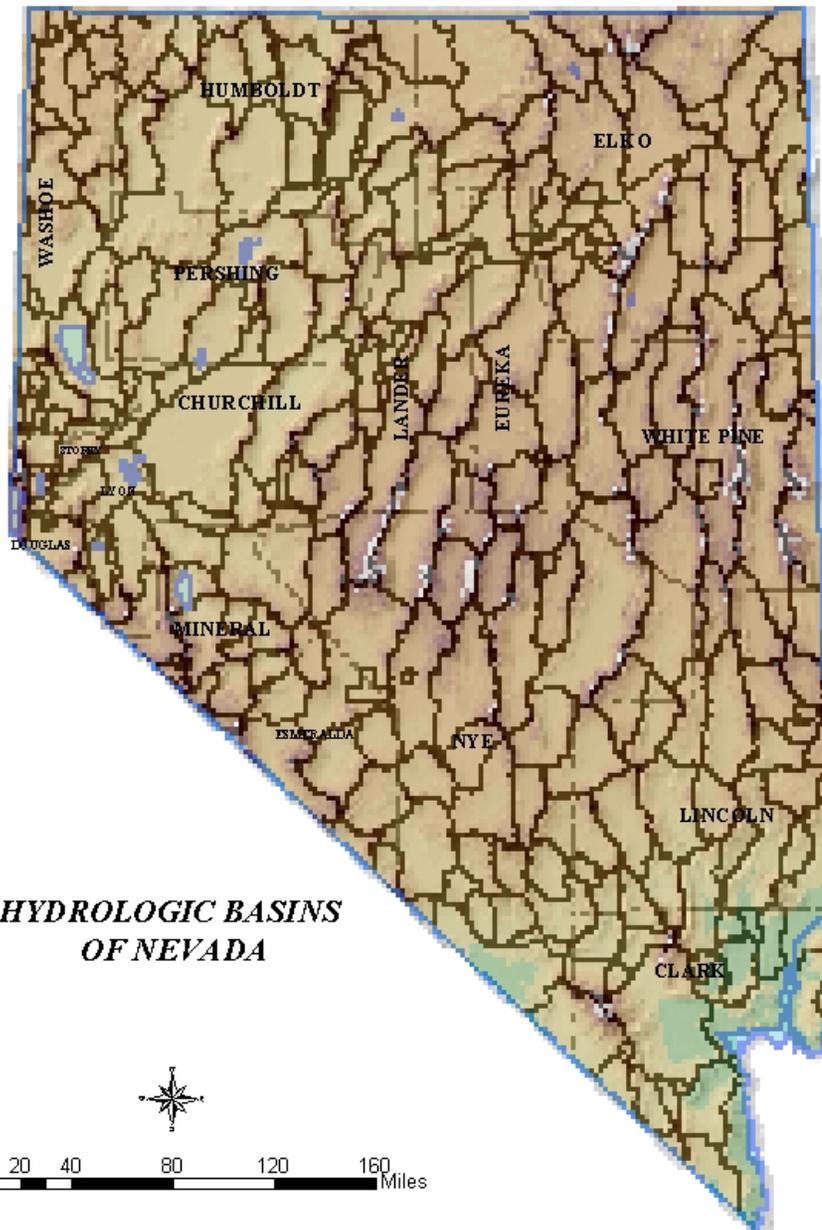
**\*\* Colorado River allocation is administered by the Colorado River Commission through the Bureau of Reclamation (BoR)**





# Ground Water

- Very little development until the 1960's
- State divided into hydrographic basins
  - Each basin is considered separate sources of water
- Designated and non-designated basins
- **Perennial Yield Concept**
  - The maximum amount of ground water that can be salvaged each year over the long term without depleting the ground water reservoir.
  - The perennial yield cannot be more than the natural recharge.

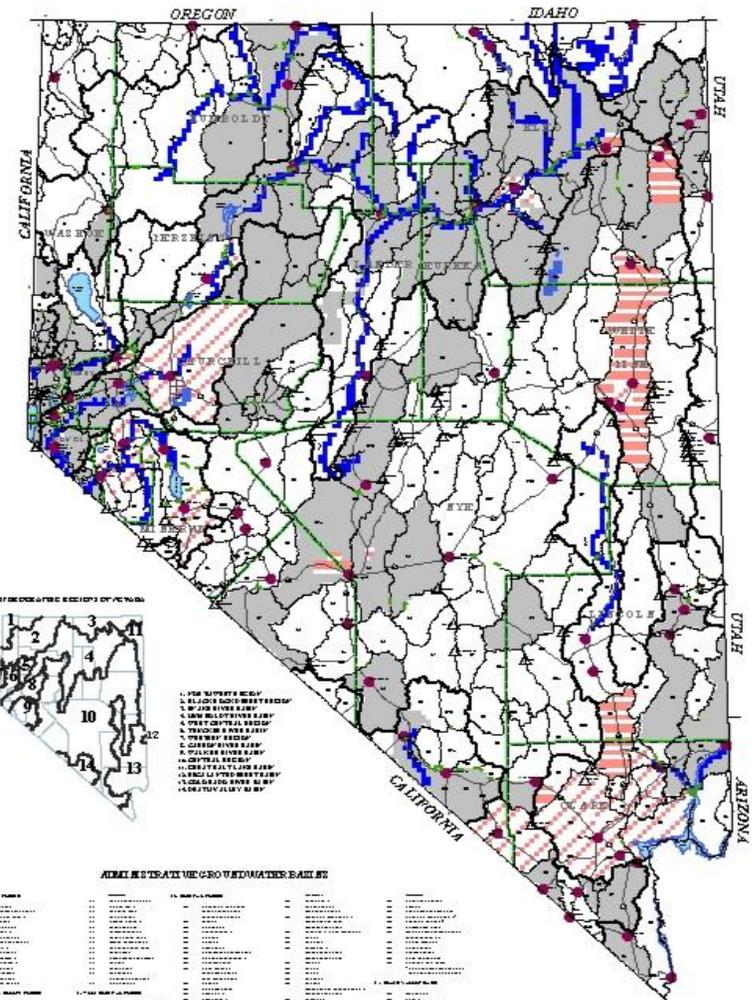


***HYDROLOGIC BASINS  
OF NEVADA***

NDWR  
SEPTEMBER 2002

HUGH RICE, P.E.  
NEVADA STATE ENGINEER

# 119 Groundwater Basins of the 232 are Designated or Partially Designated



- 1. THE SIERRA NEVADA
- 2. ELI'S CREEK WESTERLY
- 3. JOE'S CREEK
- 4. SAN RAFAEL'S CREEK
- 5. PETERSON'S CREEK
- 6. TRUCKEE RIVER
- 7. TRINITY CREEK
- 8. GARDNER'S CREEK
- 9. WILSON'S CREEK
- 10. CENTRAL BASIN
- 11. GREAT VALLEY
- 12. LAKE PIUTE CREEK
- 13. CALICO CREEK

**ADMINISTRATIVE GROUNDWATER BASINS**

Basin Name	County	Designation
1. THE SIERRA NEVADA	Esmeralda	Designated
2. ELI'S CREEK WESTERLY	Esmeralda	Designated
3. JOE'S CREEK	Esmeralda	Designated
4. SAN RAFAEL'S CREEK	Esmeralda	Designated
5. PETERSON'S CREEK	Esmeralda	Designated
6. TRUCKEE RIVER	Esmeralda	Designated
7. TRINITY CREEK	Esmeralda	Designated
8. GARDNER'S CREEK	Esmeralda	Designated
9. WILSON'S CREEK	Esmeralda	Designated
10. CENTRAL BASIN	Churchill	Designated
11. GREAT VALLEY	Churchill	Designated
12. LAKE PIUTE CREEK	Clark	Designated
13. CALICO CREEK	Clark	Designated

**NOTE:** This map is for the purpose of information only. It is not intended to be used as a legal document. The Department of Conservation and Natural Resources is not responsible for the accuracy of the information presented herein. Users should consult the Nevada Division of Water for more information.

**LEGEND:**

- Designated Basin
- Partially Designated Basin
- Other Basins
- County Boundary
- State Boundary
- Water Body
- Major Road
- Minor Road
- Well
- Spring
- Stream
- River
- Lake
- Reservoir
- Dam
- Canal
- Power Line
- Railroad
- Highway
- Interstate
- State Route
- County Route
- Local Road
- Wellhead
- Springhead
- Streamhead
- Riverhead
- Lakehead
- Reservoirhead
- Damhead
- Canalhead
- Power Linehead
- Railroadhead
- Highwayhead
- Interstatehead
- State Routehead
- County Routehead
- Local Roadhead

**Scale:** 1 inch = 20 miles

**North Arrow:** True North

**Source:** Nevada Division of Water, 2000





# **GROUNDWATER**

**\* 1.7 Million Acre – Feet**

**within the**

**232 Groundwater Basins**

**GEO THERMAL**

**\* Perennial Yield of Valley-Fill Reservoirs**



# Columbia River at The Dalles

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- Averages ~ 200,000 cfs
- Enough water passes that gauging station in ~ 16 days to equal the annual surface and groundwater supply in Nevada.



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# **Criteria Used by the State Engineer When Deciding Whether or not to Approve or Deny an Application**



# Criteria

**Approval or denial of water rights based on four (4) primary criteria (533.370):**

- Is there unappropriated water?
- Will it conflict with existing rights?
- Does the use of the water prove detrimental to public interest?
- Does the use conflict with existing domestic wells?



# Criteria

**Additional criteria for approving a water right was added in the 1993 and 1995 legislatures (533.370):**

- Applicant must show good faith to construct the works necessary to put the water to the intended beneficial use with reasonable diligence.
- Have financial ability to construct the project and apply the water to beneficial use with reasonable diligence.



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# **Approval Criteria When Dealing with Interbasin Transfers**



# Interbasin Transfers

- **Not a new idea!**
- 1<sup>st</sup> interbasin transfer was in 1873  
Marlette Lake to Virginia City (Lake Tahoe Basin to Dayton Valley)
- **CANNOT** change point of diversion from one hydrographic basin to another. Water is moved via ditches, pipeline etc.

<b>Groundwater Source</b>		
<b>Basin-of-Origin</b>	<b>Receiving Basin</b>	<b>Type of Use</b>
Washoe Valley	Eagle Valley	Carson City municipal supply
Goshute Valley	Great Salt Lake Desert	Wendover municipal supply
Pilot Creek Valley	Great Salt Lake Desert	Wendover municipal supply
Long Valley	Cold Springs Valley	municipal supply
Ralston Valley	Big Smokey Valley	Tonopah municipal Supply
Carson Valley	Eagle Valley	Carson City municipal supply
Dayton Valley	Eagle Valley	Carson City municipal supply
L. Meadow Valley Wash	Muddy River Springs Area	Reid Gardner Power Plant
Oreana Sub-area	Lovelock Valley	Lovelock Municipal Supply
<b>Surface Water Source</b>		
<b>Source / Basin-of-Origin</b>	<b>Receiving Basin</b>	<b>Type of Use</b>
Lake Tahoe Basin	Eagle Valley	Carson City municipal supply
Lake Tahoe Basin	Dayton Valley	Virginia City municipal supply
Truckee River (Tracy Segment)	Carson River (Churchill Valley via Truckee Canal)	Truckee-Carson Irrigation District irrigation
Newark Valley (spring)	Diamond Valley	Eureka municipal supply
Lake Tahoe Basin (treated effluent)	Carson Valley	irrigation
Truckee River (Truckee Meadows)	Lemmon Valley	SPPCo municipal supply
Carson River (Dayton Valley)	Eagle Valley	Carson City municipal supply
Colorado River (Black Mountain area)	Las Vegas Valley	Las Vegas area municipal supply
Truckee River (Truckee Meadows)	Spanish Springs Valley (via Orr Ditch)	irrigation
Truckee River (Truckee Meadows)	Sun Valley	SPPCo for municipal supply

# Other Inter-Basin Transfers



# Las Vegas Valley Water District

- In-State Groundwater
  - Filed 146 applications in 1989 in 27 basins for the appropriation of 180,000 acre-feet of groundwater
  - Withdrew 32 applications from 10 of the basins
  - Eleven permits have been granted
    - Virgin River – 130,000 afa
    - Garnet and Hidden Valleys – 2200 afa
    - California Wash – 2500 afa
    - Tikapoo Valley North – 2587 afa
    - Tikapoo Valley South – 170 afa
    - Three Lakes Valley North – 2000 afa
    - Three Lakes Valley South – 2618 afa
  - Remaining 103 applications have over 3,000 protests



# Additional Criteria When Considering Interbasin Transfers

Adopted in the 1999 legislation session **(533.370)**

- Whether the applicant has justified the need to import the water from another basin;
- If the S.E. determines that a plan for conservation of water is advisable for the basin into which the water is to be imported, whether the applicant has demonstrated that such a plan has been adopted and is being effectively carried out;



# Interbasin Transfers

- Whether the proposed action is environmentally sound as it relates to the basin from which the water is exported;
- Whether the proposed action is an appropriate long-term use which will not unduly limit the future growth and development in the basin from which the water is exported;
- Any other factor determined to be relevant



# Interbasin Transfers

- The new criteria set forth in NRS 533.370 was first used in the evaluation of the interbasin transfer application filed to appropriate water in Mesquite (Sandy) Valley and pipe the water to Primm, Nevada, which is located in Ivanpah Valley.
- The application was protested by approximately 29 individuals and went to hearing.
- A ruling was issued and the State Engineer issued the permit.



# Interbasin Transfers

- The permit was issued for much less water than the applicant had applied for (2000 acre-feet) but did allow exportation of 415 acre-feet annually of water from Sandy Valley to Ivanpah Valley. The ruling was appealed by both the applicant and the protestants to the District Court of Clark County, which upheld the ruling in total. Both parties appealed this district court decision.



# Overview of Existing Water Studies and Research in Nevada

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# Water Budget Studies



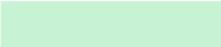
232 Basins

Original USGS Reconnaissance Reports and Bulletins (Published in the late 1940's through the late 1970's)



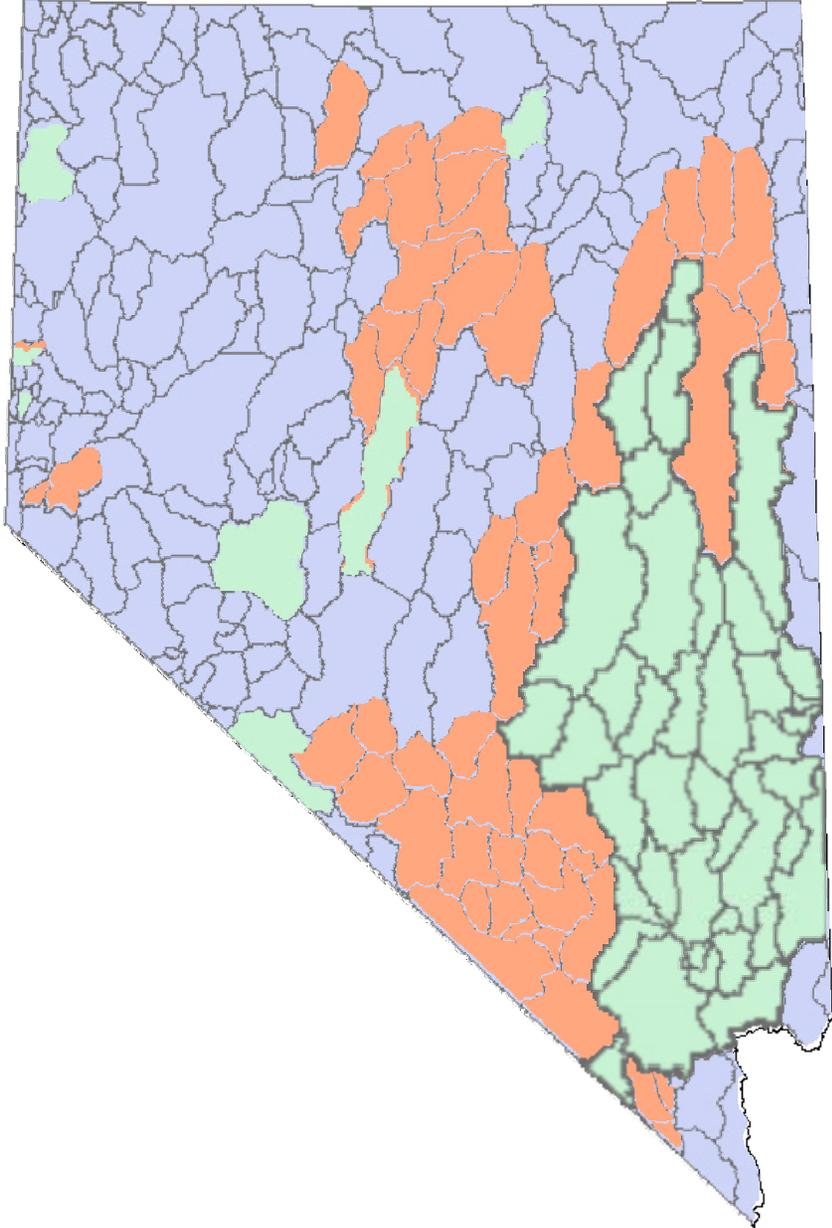
74 Basins

Newer USGS Studies (Published in the late 1990's through Present)



46 Basins

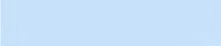
1990's through Present. Some of these studies are for the same basins studied by later USGS reports)



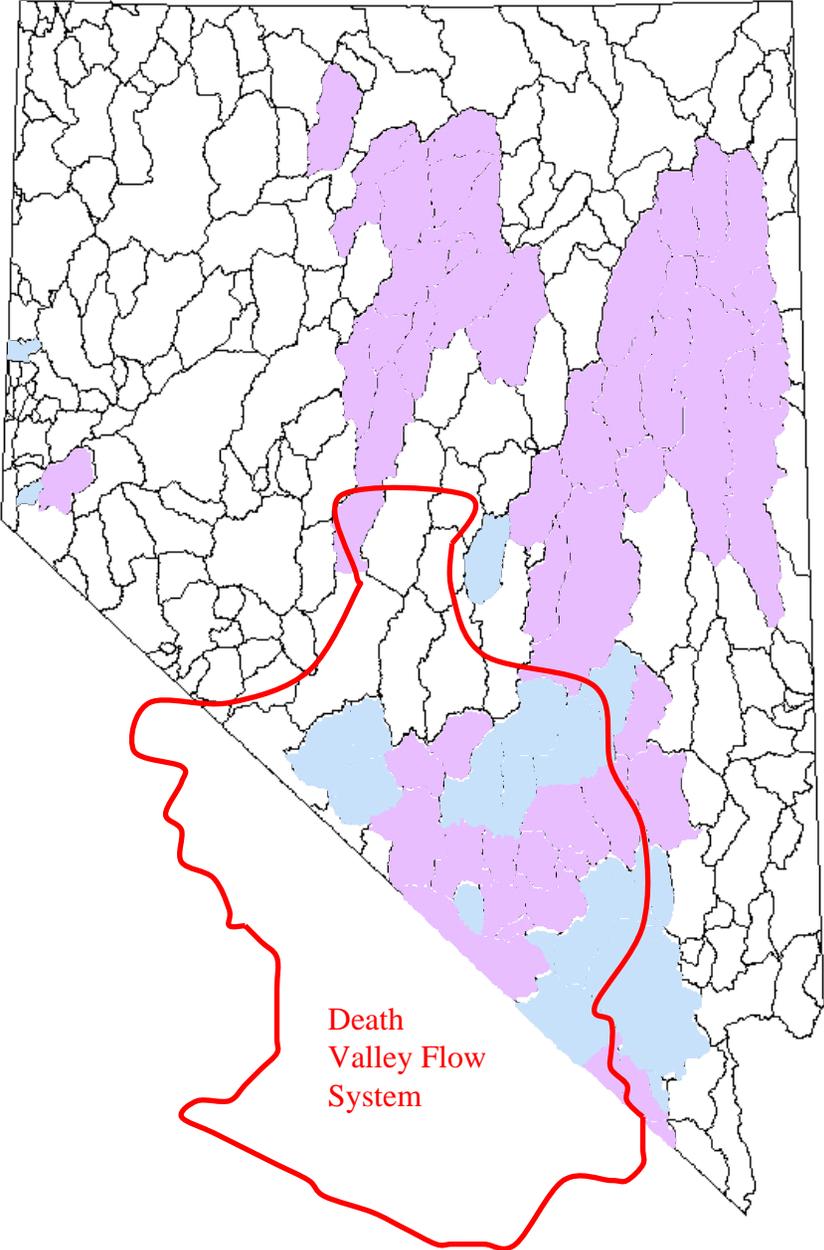
# Water Budget Studies

 54 Basins

New USGS Studies with Recharge Estimates Higher than Original

 20 Basins

New USGS Studies with Recharge Estimates Lower than Original (15 of the 20 Basins are within the Death Valley Flow System)





# What Do the Newer Studies Show?

- 74 Basin Budgets re-estimated by the USGS since the original reconnaissance reports
- 20 are estimated to have less recharge than the original reconnaissance reports
- 15 of the 20 lower estimates are in the Death Valley flow system
- **The total recharge for the 74 re-estimated basins is 1,354,000 afy versus 755,000 afy in the original reports**



# NDWR Work

- Ground Water Pumpage Inventories
  - 55 Basins (30 crop and 25 pumpage)
- Water Level Measurements
  - 50 Basins
- Precipitation Measurements
  - 35 Stations
- Permittee Pumpage Data
  - ~400 Permittees

# USGS COOPERATIVE PROGRAM SUMMARY

Note: Amounts shown below do not include funding for Humboldt River Basin Study, or for Water Use prior to FY'01.

FY = Federal Fiscal Year, Oct 1 - Sep 30

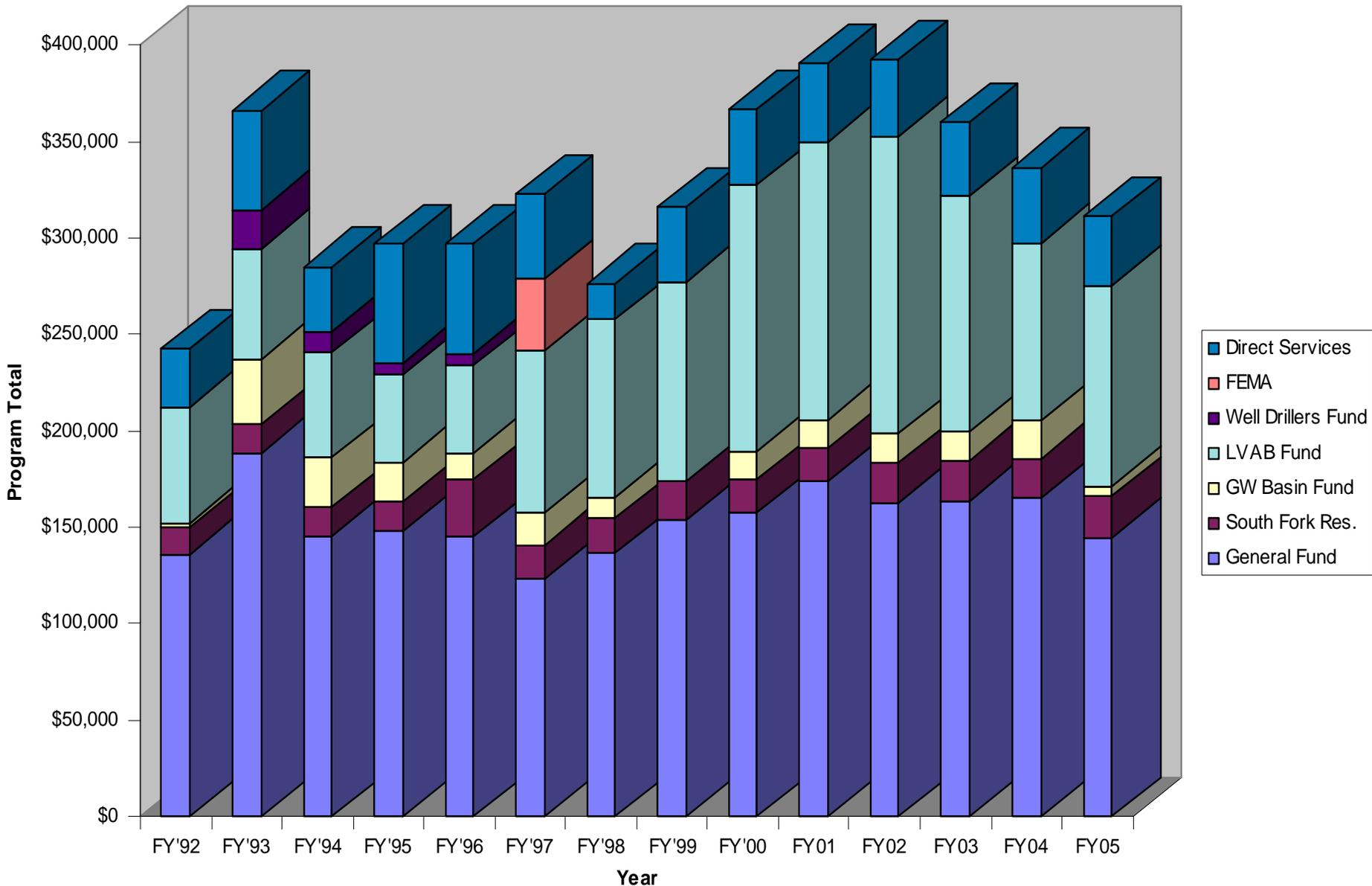
LVVWD - Las Vegas Valley Water District, FNAS - Fallon Naval Air Station, USFWS - U. S. Fish and Wildlife Service, GW - ground water, LVAB - Las Vegas Artesian Basin,

FEMA - Federal Emergency Management Agency

03/15/05

	FY'92	FY'93	FY'94	FY'95	FY'96	FY'97	FY'98	FY'99	FY'00	FY01	FY02	FY03	FY04	FY05
AMAX	\$41,000	\$2,400												
Barrick	\$142,500	\$129,000	\$73,500	\$55,400	\$56,500	\$69,300	\$95,500	\$79,000	\$70,000	\$72,000	\$79,000	\$82,500	\$113,500	\$100,000
Newmont	\$142,500	\$129,000	\$73,500	\$55,400	\$56,500	\$118,000	\$117,500	\$101,800	\$93,800	\$98,000	\$106,200	\$161,300	\$142,860	\$109,360
LVVWD	\$455,500	\$469,950	\$563,393	\$328,215	\$430,000	\$308,500	\$178,000	\$99,600	\$107,100	\$154,750	\$164,400	\$154,040	\$154,660	\$157,450
Washoe County	\$61,840	\$146,075	\$134,661	\$128,859	\$40,020	\$18,815	\$30,725	\$33,325	\$33,225	\$29,775	\$31,450	\$33,425	\$25,615	\$20,516
Eureka County													\$66,720	\$52,540
FNAS						\$75,000	\$75,000	\$25,000						
USFWS								\$106,400	\$108,800	\$95,900	\$133,050	\$87,650	\$49,550	
Other Co-op	\$102,345	\$113,285	\$118,988	\$118,790	\$105,785	\$114,705	\$142,850	\$166,890	\$168,740	\$184,800	\$156,850	\$254,451	\$182,973	\$182,933
<b>Co-op Subtotal</b>	<b>\$945,685</b>	<b>\$989,710</b>	<b>\$964,042</b>	<b>\$686,664</b>	<b>\$688,805</b>	<b>\$704,320</b>	<b>\$639,575</b>	<b>\$612,015</b>	<b>\$581,665</b>	<b>\$635,225</b>	<b>\$670,950</b>	<b>\$773,366</b>	<b>\$735,878</b>	<b>\$622,799</b>
General Fund	\$135,972	\$188,778	\$145,500	\$148,000	\$145,000	\$123,300	\$136,410	\$153,488	\$157,435	\$173,590	\$162,769	\$163,761	\$165,275	\$144,375
South Fork Res.	\$13,950	\$14,725	\$15,000	\$15,000	\$29,500	\$17,300	\$18,300	\$20,208	\$17,300	\$17,300	\$20,718	\$20,838	\$20,450	\$21,880
GW Basin Fund	\$2,222	\$33,872	\$25,730	\$20,876	\$13,900	\$17,000	\$11,000		\$15,000	\$15,000	\$15,000	\$15,000	\$19,440	\$5,000
LVAB Fund	\$60,500	\$57,000	\$54,500	\$45,500	\$45,500	\$83,750	\$92,000	\$103,600	\$137,800	\$144,250	\$154,300	\$122,160	\$92,490	\$104,285
Well Drillers Fund		\$20,273	\$10,920	\$5,774	\$6,100									
FEMA						\$37,275								
Direct Services	\$30,000	\$51,350	\$33,500	\$61,900	\$56,900	\$44,000	\$18,520	\$38,802	\$39,400	\$40,200	\$39,800	\$38,300	\$38,800	\$35,764
<b>NDWR Subtotal</b>	<b>\$242,644</b>	<b>\$365,998</b>	<b>\$285,150</b>	<b>\$297,050</b>	<b>\$296,900</b>	<b>\$322,625</b>	<b>\$276,230</b>	<b>\$316,098</b>	<b>\$366,935</b>	<b>\$390,340</b>	<b>\$392,587</b>	<b>\$360,059</b>	<b>\$336,455</b>	<b>\$311,304</b>
<b>USGS</b>	<b>\$925,393</b>	<b>\$1,090,707</b>	<b>\$1,072,011</b>	<b>\$803,232</b>	<b>\$830,655</b>	<b>\$914,970</b>	<b>\$696,325</b>	<b>\$681,865</b>	<b>\$738,519</b>	<b>\$793,825</b>	<b>\$821,925</b>	<b>\$843,318</b>	<b>\$844,650</b>	<b>\$656,628</b>
<b>TOTAL</b>	<b>\$2,113,722</b>	<b>\$2,446,415</b>	<b>\$2,321,203</b>	<b>\$1,786,946</b>	<b>\$1,816,360</b>	<b>\$1,941,915</b>	<b>\$1,612,130</b>	<b>\$1,609,978</b>	<b>\$1,687,119</b>	<b>\$1,819,390</b>	<b>\$1,885,462</b>	<b>\$1,976,743</b>	<b>\$1,916,983</b>	<b>\$1,590,731</b>
														<b>Grand Total</b>
														<b>\$26,525,097</b>

# USGS Program Funding Sources



**Note: This histogram does not show Cooperator funding levels.**



# CURRENT STUDIES

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- Basin And Range Carbonate Aquifer System Study (BARCASS)
- BLM Corridor EIS

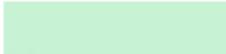
# Study Summary



Original USGS Reconnaissance Reports and  
Bulletins (Published in the late 1940's through  
the late 1970's)



Newer USGS Studies (Published in the late  
1990's through Present)



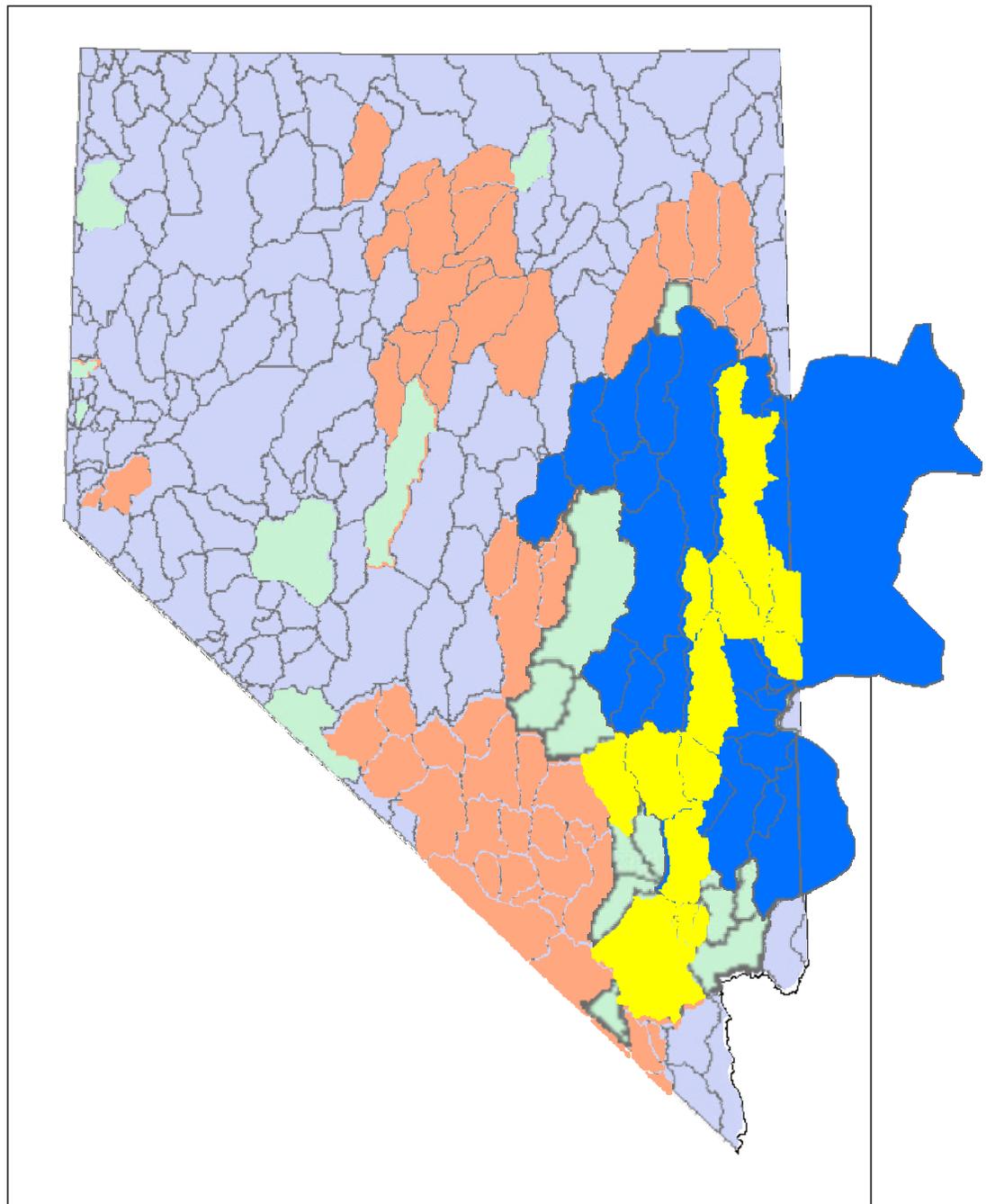
Studies by Others (Published in the late  
1990's through Present)



BARCASS



BLM Corridor EIS





# In Summary

- Many water resource studies have been conducted in Nevada that provide the State Engineer with the basis for making allocation decisions.
- A number of studies are ongoing to gather additional information in areas of critical concern.
- Studies have provided a range of water availability. However, the State Engineer is conservative in his rulings.
- The State Engineer has the authority to require the applicant conduct additional studies to fill in data gaps.
- Monitoring and “ground truthing” is conducted to ensure predicted impacts reflect actual impacts.



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# Potential Interim Study Issues



# Issues

- Priorities of Domestic Wells (Study Item No. 1)
- Mother-in-law Quarters (Study Item No. 1)
- Penalties for Overpumping (Study Item No. 5)
- Regulation by Priority (Study Item No. 1)
- Studies (Study Items 2, 6 and 7)



# Issues

## Priorities of Domestic Wells

- The statutes are quiet regarding priorities of domestic wells. **(534.080 and 534.110)**
- Where do they fit into the scheme of regulation by priority?



# Issues

## Mother-in-Law Quarters

(adding a separate living unit on to a domestic well)

- The statutes define domestic use related to a single family dwelling. (534.013)
- Does the statute need to be changed to incorporate an additional structure as long as the appropriation does not exceed 1800 gpd?
- This issue may also apply to permitted rights



# Issues

## Penalties for Overpumping

- Can only stop overpumping through lengthy and costly court remedies.
- Should the Division be able to fine water users for overpumping of their right?
- If so, what is the fining schedule?



# Issues

## Regulation by Priority

- If a basin is being overpumped, is regulation by priority **(534.110)** the only tool that DWR has at its disposal?



# Issues

## Studies

- What, if any, studies relating to water quantity need to be conducted?