

# RIO GRANDE DIVERSION INFRASTRUCTURE INVENTORY

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**Structure Name:** RIO GRANDE CANAL

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**Reported By:** Daniel Boyes

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**Date:** April 9, 2019

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Headgate	Latitude	Longitude
Location:	37.68736667	-106.3673

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**Headgate Type:** Mechanically operated 12' wide radial gates (5)

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<b>Headgate Condition:</b>	A <input checked="" type="checkbox"/>	<b>Diversion and Other Condition:</b>	A <input type="checkbox"/>	<b>River Miles from New Mexico State Line (Point of Diversion):</b>	<b>Structure Submerged:</b> Yes <input checked="" type="checkbox"/>
	B <input type="checkbox"/>		B <input type="checkbox"/>		No <input type="checkbox"/>
	C <input type="checkbox"/>		C <input checked="" type="checkbox"/>	101.67 mi	
	D <input type="checkbox"/>		D <input type="checkbox"/>		
	F <input type="checkbox"/>		F <input type="checkbox"/>		

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**Repair(s) or Improvement(s) Completed Since 2006:** None

**Structure Description:** The channel is very stable in the area immediately surrounding this structure's diversion, in part due to the bedrock control on the north bank of the river. However, approximately 1.5 miles upstream of the Rio Grande Canal diversion, near the Dyer Ditch diversion, there is potential for the river to jump the south bank and form a new channel, following Dyer Ditch and the Pinos Creek channel (see map below). If this occurs, the Rio Grande Canal would be bypassed and could pose a serious flooding risk to the Town of Del Norte. The canal's diversion is a concrete dam that spans the entire river, directing water to the canal headgates. The headgates and canal are located on the north side of the river. A pair of sluice gates enables sediment to be flushed downstream. An additional set of adjustment gates (3) are located just downstream of the headgate. The diversion dam functions well for water users, but poses significant risks for recreational boaters. The diversion dam creates a roughly 10-foot change in the river's water surface elevation. At some flows, this forms a hydraulic jump, which is very dangerous and can entrain, or trap, objects for long periods of time. To make this structure safe for recreational boaters, the diversion dam would need to be modified for safe boat passage. However, as noted in the 2018 Rio Grande Fish Management Plan, this channel-wide diversion serves a critical role as a barrier to nonnative fish species movement upstream. The only designated Gold Medal fishery in the Rio Grande Basin spans approximately 17 miles from South Fork downstream to this structure. If the structure is ever modified, it is critically important that it remains a fish barrier to prevent nonnative predators found downstream from moving upstream into the high-quality trout fisheries.

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**Repair(s) or Improvement(s) Currently Needed:** The SMP Technical Advisory Team (TAT) does not recommend any immediate improvements, however if the diversion is modified in the future, the TAT recommends incorporating boat passage, if possible, and maintain the existing fish barrier.

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**Comments:** This ditch includes priorities 28, 176, 178, 188, 197, 198, 202, 203, 216A, 235, 276A, 288A, 312A, 338.5A, 344, 358A, 363A, 363B, 365, 1903-24C, 1903-30A, 1903-30C, 1903-34C, 1903-37B, 1903-41B, 1903-45C, 1903-46C, 1903-49D, 1903-52C, 1903-57A, and 1903-61A.

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**Estimated Range of Cost:** Low

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Headgate looking downstream



Headgate and diversion dam



Headgate outlet



Diversion dam looking upstream



Radial adjustment gates



Flume looking upstream



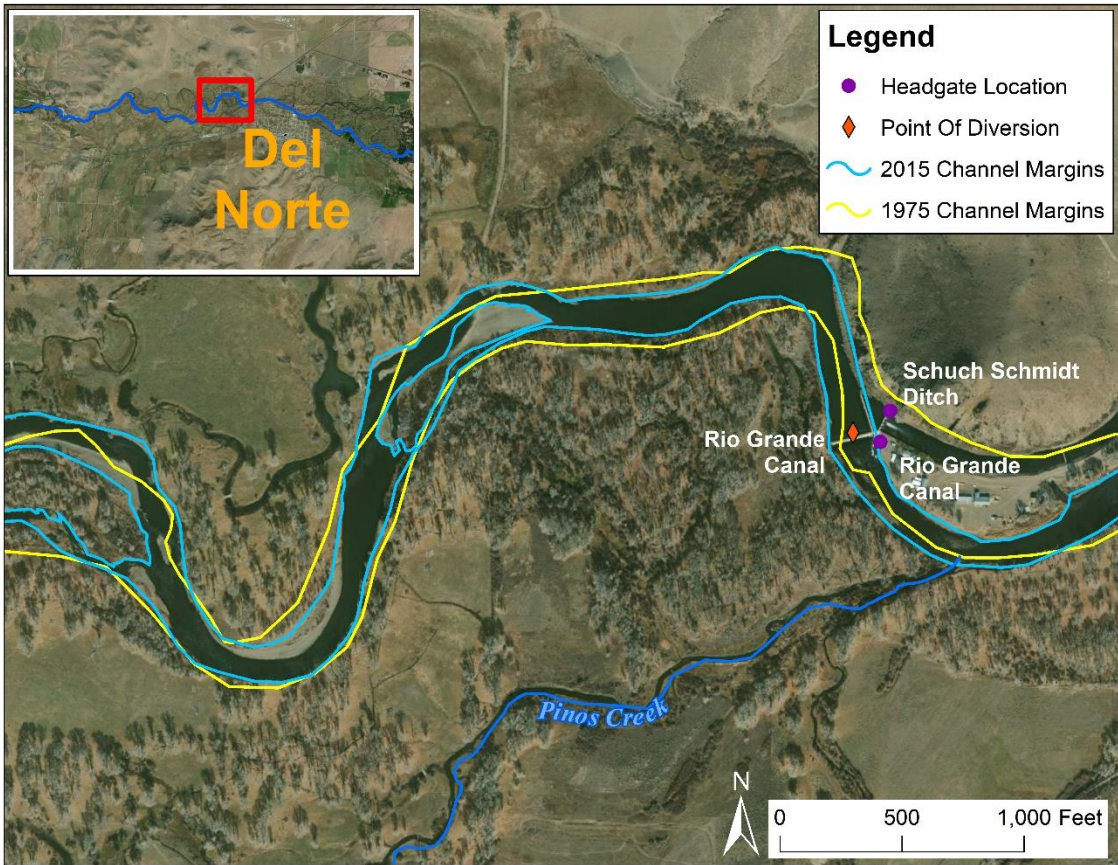
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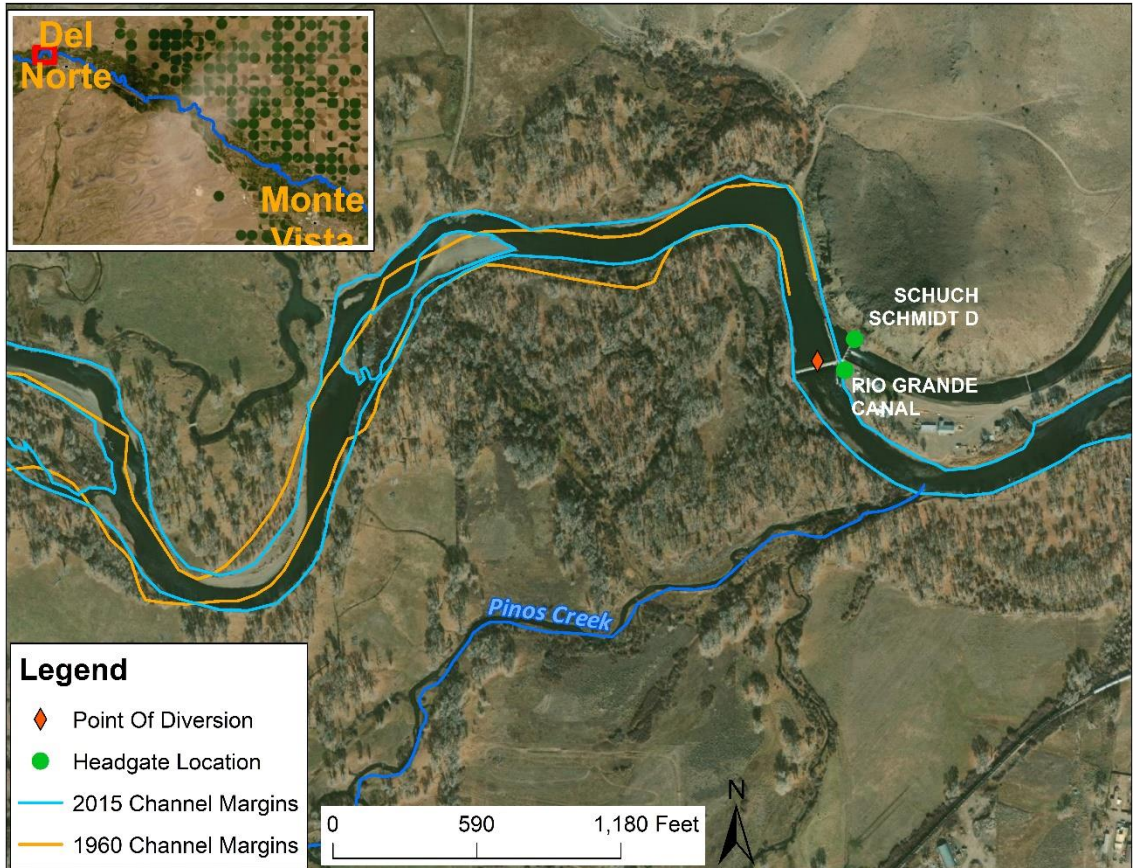
PHOTO LOG

Rio Grande Stream Management Plan



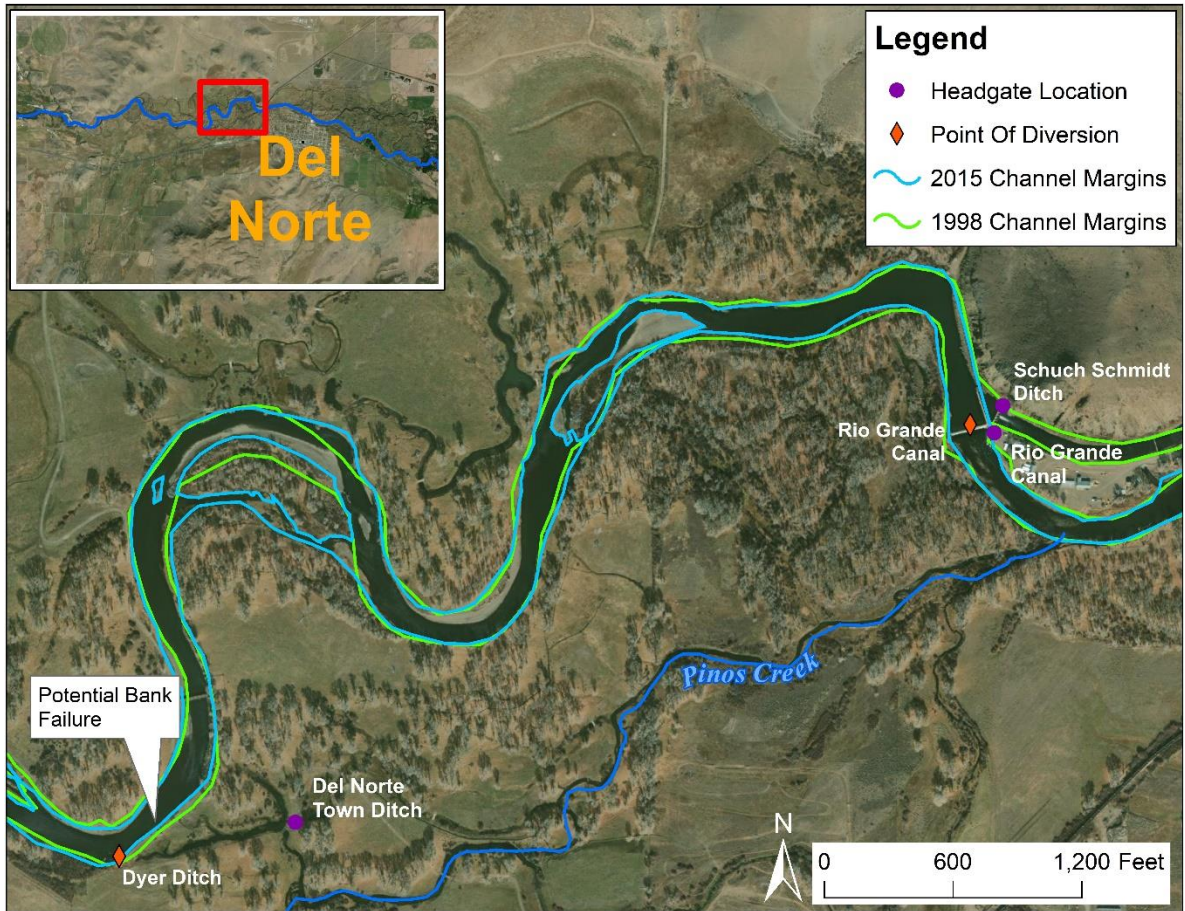


Map showing Rio Grande Canal diversion dam and headgate location. 1975 and 2015 channel margins show little channel migration.



Map of Rio Grande Canal diversion dam and headgate with 1960 and 2015 channel margins overlaid.





Map showing potential bank failure and risk to Rio Grande Canal.



Rio Grande Canal diversion dam looking upstream