

NISP Environmental Impact Rating

● -Adverse Effects

● -Mitigated Effects

● -No Adverse Effects

Environmental Issue	Rating	Comments
Surface Water Quality & Quantity	●	Low flows downstream lead to warmer water temperatures and increases in algal growth along with increased E. Coli levels; Motorized boats in Glade increase water hydrocarbons levels; Diversions from Poudre mostly during April-August; Glade Reservoir water quality is “expected” to be relatively good; NISP 401 water quality certification notes millions to be spent for studies on the actual effectiveness of E.coli and nutrient reduction measures
Groundwater Quality and Quantity	●	Predicted reductions in max river stage range from 1.4-3.4 feet (versus .4-1 foot with no action; Ground water reductions would ‘not likely’ be discernable by alluvial well owners; Trichloroethene concentrations in ground water are below Colorado ground water standards.
Native Mesic Vegetation	●	Glade would result in the permanent loss of 2,600 acres consisting of mesic grassland, shrubland, and woodland; Restoration of woodlands would take many years; All alternatives would have MAJOR effects because of the total permanent loss of vegetation from inundation of reservoir and other project components; Vegetation communities would be lost from future residential development
Riparian Vegetative	●	The total riparian vegetative loss would be major; During construction NISP would affect 43 acres of riparian woodlands both permanently and temporarily; Restoration of woodlands following disturbance would take many years to reach the existing level of growth
Wetlands, Riparian Resource and Other Waters	●	Wetland areas get the majority of water from Poudre River; 18 natural areas encompassing 1,800 acres will be negatively impacted, including loss of trees, understory plants, forest and wetlands animals; As stated by Fort Collins Land Conservation and Stewardship Board, “The impacts on the adjacent river natural areas cannot be mitigated...will suffer devastating permanent harm”; Glade would require filling 62 acres of wetlands; Glade would indirectly affect 17 acres along Poudre section B, causing changes in river stage; NISP 401 water quality certification notes 10 acres of wetland enhancement, 1 mile of stream channel enhancement for temperature control and millions of dollars to study its ongoing impact

<p>Terrestrial Wildlife and Special Status Species</p>		<p>Permanent effects to wildlife habitat include as many as 2,284 acres; Glade would have major effects on elk overall range, winter range and winter concentration area with the greatest permanent effects of all alternatives Effects would be most pronounced in the residential elk herd that occurs in this area year-round; Major loss of mule deer winter range at a local scale Greater than 20% of the local habitat of mule deer, pronghorn, and elk would be affected and more fragmented; Permanent effects to 34 special status species habitat include as many as 908 acres; Permanent effects on Preble’s Meadow Jumping Mouse would be greatest for Glade where 43 acres of occupied habitat would be permanently impacted; Permanent impact on 215 acres of prairie dog colonies, 1,753 acres of swift fox habitat, 777 acres of grassland habitat, 964 acres of upland native shrublands potentially supporting numerous species of concern; Greatest effects on wetland-associated special status species: 42 acres of wetlands, 8 of aquatic habitat, 16 of riparian woodland habitat would be permanently lost; All alternatives would contribute to the loss of habitat for special status species</p>
<p>Aquatic Biological Resources</p>		<p>Potential for exceedances of arsenic standard as well as fish consumption advisories due to mercury in fish tissue; Dissolved O2 concentrations at surface may be below aquatic life use standard for short periods following fall turnover; There may be slight reductions in fish abundance</p>
<p>Visual, Cultural, Historical and Paleontological Resources</p>		<p>There will be long-term direct effects to environmental visual aesthetics because of the visual contrast of the dam with the surrounding landscape and the dam size which makes it observable from various points; Dam would appear relatively large; Of all alternatives, Glade would affect the greatest number of known Historic properties; Of all alternatives, Glade and 287 realignment have greatest potential adverse effects on currently unknown paleontological resources</p>
<p>Energy Use/ Greenhouse Gases</p>		<p>With climate change CO2 emissions are of major concern. During construction estimated CO2 57,000 to 66,000 tons/year. After construction, the CO2 footprint of Glade and its operations would be 35,000 to 41,000 tons/yr. The annual electricity usage for lifting water from forebay at full operation will be 39 megawatt hours (equivalent to 5,247 homes)</p>
<p>Air Pollution</p>		<p>Reservoir/embankment construction would contribute most of the NOx emissions that exceed levels for ozone nonattainment area and would require a general conformity determination to endure compliance with air quality standards; Exposed reservoir shorelines could periodically contribute to local fugitive dust which, along with SO2 and NOx, have the potential to contribute to regional haze and affect visibility; During construction unavoidable increased emissions of CO, NOx, PM10, and VOC’s would temporarily elevate pollutant concentrations in the immediate vicinity</p>
<p>Noise Pollution</p>		<p>All alternatives would have short-term unavoidable impacts from construction noise; Blasting needed for dam excavation would occur only during daylight hours; Equipment operates in range of 70-90 dBA; Recreation activities and associated traffic would increase the current level at the site. These increases are expected to be minor because they would only be slightly above existing levels and would not exceed existing standards.</p>