

**Preliminary Evaluation of
the Environmental Impacts of
a Resort Casino Proposed by the
Federated Indians of the Graton Rancheria
at Lakeville Highway and State Highway 37
in Southern Sonoma County, California**

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by

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The Bay Institute is a nonprofit organization established in 1981. Its mission is to protect and restore the ecosystems of San Francisco Bay, the Sacramento-San Joaquin Delta, and the rivers, streams, and watersheds tributary to the Estuary. The Bay Institute uses advocacy, education, and science to protect and restore the Estuary. Marc Holmes is Manager of the Bay Restoration Program.

The Sonoma Land Trust is a nonprofit organization established in 1976. Its mission is to provide permanent protection of Sonoma County land, its natural beauty and its biotic resources, offering stewardship, education, and guidance for the preservation and enhancement of agricultural, natural, scenic, and open space lands. The Trust has protected more than 15,000 acres by working directly with willing landowners who choose to keep their lands intact. Wendy Eliot is Project Director.

The Sonoma Ecology Center is a nonprofit organization established in 1990. Its mission is to work toward a condition of sustainable ecological health in Sonoma Valley, through community-supported research, education, restoration, and preservation. The Sonoma Ecology Center provides objective information, facilitation, and mapping to support far-sighted decision-making about land and resource use in Sonoma Valley. Caitlin Cornwall is Assistant Director.

Produced and distributed with assistance from the **San Francisco Bay Joint Venture**. The San Francisco Bay Joint Venture is one of thirteen Joint Ventures established under authority of the North American Wetlands Conservation Act. It brings together public and private agencies, conservation groups, development interests, and others to restore wetlands and wildlife habitat in San Francisco Bay watersheds and along the Pacific coasts of San Mateo, Marin and Sonoma counties. Beth Huning, Coordinator.
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INTRODUCTION

The Federated Indians of the Graton Rancheria recently announced a proposal to build a casino and resort on 2000 acres of property in southern Sonoma County. The announcement came as a surprise to government agencies and environmental organizations that have been working for decades on a large-scale wetland restoration effort on, and in the immediate vicinity of, the proposed casino site, as well as throughout the entire region.

Work to protect and restore wetlands in the region has been underway for at least 30 years. Thousands of acres of lands have been acquired by public agencies and nongovernmental organizations for the explicit purpose of protecting and restoring the once expansive sweep of tidal marshes that arced from San Rafael to Vallejo.

The purpose of this paper is to describe the ecological value of the proposed development site, the expected consequences of casino development on wetland protection and restoration efforts in particular, and the anticipated environmental impacts of the casino generally.

SETTING

The Site

The proposed casino site is at the far northern end of San Pablo Bay, at the intersection of Highway 37 and Lakeville Highway. It is on the western slope of a landform known as Sears Point, which rises from the shoreline of San Francisco Bay to the top of Cougar Mountain. Sears Point is so named because it once was a peninsula surrounded on three sides by the tidal marshes of San Francisco Bay. The proposed casino site straddles the historic shoreline of San Francisco Bay and was once part of an extensive mosaic of tidal and seasonal marshes interspersed with grasslands. Before these areas were diked off from the Bay, they supported an abundance of wildlife that is difficult to imagine (see box).¹ By 1930, this area had been diked off from San Francisco Bay and the tidal marshes converted to agricultural uses of oat hay farming and livestock grazing.² Lands behind the dikes have subsided between 4 to 5 feet below sea level as the soils dried and decomposed. Areas near the southwest and northwest corner of Highway 37 and Lakeville Highway are 4 to 5 feet below sea level and Highway 37 is 1 foot above sea level. It is only extensive, continuous pumping by local agricultural operations during the rainy season that keeps their fields and Highway 37 from flooding.

To the authors' knowledge, no detailed biological studies of the proposed development site have been completed or made available. However, detailed biological and hydrologic studies have been conducted on adjacent and similar properties over the last decade. These studies indicate that in spite of the conversion of tidal marshes to diked farmlands, these diked areas still possess considerable biological resources, including abundant seasonal wetlands, which

"What Was It Like Before?"

"The intermingling of grasslands, savannahs, salt- and freshwater marshes, and forests created wildlife habitat of almost unimaginable richness and variety... 'There is not any country in the world which more abounds in fish and game of every description,' noted the French sea captain, La Perouse... Life in the ocean and in the unspoiled bays of San Francisco and Monterey was likewise plentiful beyond modern conception. There were mussels, clams, oysters, abalones, seabirds, and sea otters in profusion... Long wavering lines of pelicans threaded the air... Rivers and streams emptying into [the Bay] often fanned out into estuaries which supported extensive tule marshes. The low, salty margins of the Bay held vast pickleweed and cordgrass swamps... Ducks were so thick that an early European hunter told how 'several were frequently killed with one shot.' Channels crisscrossed the Bayshore swamps—channels so labyrinthian that the Russian explorer, Otto von Kotzebue, got lost in them and longed for a good pilot to help him thread his way through. The channels were alive with beavers and river otters in fresh water, sea otters in salt water. And everywhere there were thousands and thousands of herons, curlews, sandpipers, dowitchers, and other shorebirds.

support wildlife and native plant species. The upland areas of Cougar Mountain support seasonal and permanent streams and listed species including the federally endangered callippe silverspot butterfly.³ Based on the presence of the California red-legged frog (a listed species) on the Sears Point uplands and a parcel adjacent to the proposed development site, it is quite likely that red-legged frogs are present on the Cougar Mountain portion of the site.⁴

Planning and Zoning Context

San Francisco Bay is the most important estuary on the continental Pacific Coast for birds and a critical link in the Pacific Flyway.⁵ Its wetlands provide crucial habitat for a wide range of species. Historically, tidal marshes fringed San Pablo Bay and provided habitat for a multitude of fish, bird, and plant species, many of which are now rare or extinct. The tidal marshes of western San Pablo Bay were diked for agricultural reclamation after the California Gold Rush, around the end of the 19th century. Most of these *diked baylands* are currently used for agriculture. Over 85% of the Bay's and 82 % of the North Bay's historic tidal wetlands have been lost to reclamation, with a dramatic reduction in the wildlife populations that depend on them. Many animal and plant species have become threatened or endangered as a result of this habitat loss.

The site is in a vast undeveloped area zoned to protect open space, agriculture and environmentally sensitive areas. No development of the type proposed by the Graton Rancheria would ever be approved under existing land use plans of county, state, and federal agencies. In addition, the San Francisco Estuary Project, a joint state-federal project under the National Estuary Program, calls for a massive restoration of wetlands that once existed throughout the area. Some major restorations around Sears Point are already in progress.

Approximately 55,000 acres of tidal marsh existed in the North Bay before they were diked, drained and converted to agricultural lands. Today fewer than 10,000 acres remain. Beginning in the early 1970s, scientists recognized that in order to restore the ecological vitality of the Bay, many thousands of acres of tidal marshes would need to be restored. Because many of the agricultural lands that were "reclaimed" from marshes remain largely undeveloped, the technical requirements for their restoration to tidal marsh is relatively straightforward: breach and grade down the dikes that hold back the Bay. This process has been initiated in several locations around the Bay with documented success.

Benefits of Baylands

"The baylands provide some form of food, shelter, or other benefits to over 500 species of fish, amphibians, reptiles, birds, and mammals. In addition, there are almost as many species of invertebrates in the ecosystem as all the other animals combined. This brings to over one thousand the total number of species that use or call the baylands ecosystem home." Goals Project, 1999, p. 1.

Restoration of these wetlands and the preservation of this open space have been endorsed as a major goal by every government agency and organization interested in bay conservation. Thousands of citizens have participated in planning and implementing wetland restoration, and much careful consideration has gone into setting restoration goals. To date, costs for wetland restoration projects, both completed and committed, exceed 600 million dollars. These efforts have been especially intensive in the diked baylands of Sonoma, Napa, and Marin Counties, and the proposed casino is situated in the middle of this area. In the last 3 decades, 30 wetland restoration projects have been constructed and 25 more are planned within the three counties. These alone total over 21,000 acres of restoration already completed or planned. It has been an enormously effective and quietly successful partnership over many years.

Baylands definition:
"Baylands are the areas between the highest and lowest tides, plus lands that would be tidal in the absence of levees, sea walls, or another man-made structures that block the tides." Goals Report, p. 9.

These restoration activities are considered by local, state, and federal agencies as a critical piece for successfully implementing restoration and endangered species recovery efforts in the Bay-Delta. This consensus of opinion was formulated in a broad coalition of local, state, and federal agencies along with noted scientists and members of the public and is expressed in a number of programs and publications:

- The San Francisco Bay Estuary Project. This program was authorized in 1987 under the National Estuary Program. A Comprehensive Conservation and Management Plan was completed in 1993 calling for restoration of wetlands. It specifically identifies areas in the San Pablo Bay region as priority restoration targets. The Plan was endorsed by both federal and state governments, and its member agencies include the U. S. Fish and Wildlife Refuge, the U. S. Environmental Protection Agency, and numerous other government agencies and nongovernmental organizations.
- Baylands Ecosystem Habitat Goals Report.⁶ This 1999 report presents a guide for restoring and improving the Baylands and adjacent habitats of the San Francisco Bay – Delta Estuary. Hundreds of millions of dollars in federal funds have been appropriated and spent to implement the report’s recommendations. In the North Bay, the Report states, “Tidal marsh restoration should occur in a band along the bayshore, extending well into the watersheds of the sub region’s three major tributaries – Napa River, Sonoma Creek, and Petaluma River. Seasonal wetlands should be improved in the areas that currently are managed as agricultural baylands. All remaining seasonal wetlands in the uplands adjacent

to the baylands should be protected and enhanced ...Tributary streams and riparian vegetation should be protected and enhanced.”⁷

- The San Pablo Bay Watershed Restoration Program. This is a collaborative effort by the U. S. Army Corps of Engineers, the California Coastal Conservancy, and The Bay Institute that promotes wetland restoration from the grassroots up. Since its inception in 1996, approximately \$2 million in federal funds have been appropriated to implement the program.⁸
- The San Francisco Bay Habitat Joint Venture. The Joint Venture is a public-private partnership established under the North American Wetland Conservation Act. The Joint Venture’s primary goal, described in its Implementation Strategy, is to restore wetlands for waterfowl and other species that depend upon wetlands for their survival. About \$2 million in federal funds have been appropriated to support the wetland restoration activities of the SFBHJV.
- The National Wildlife Refuge Program. The San Francisco Bay National Wildlife Refuge was established in 1972, and has since grown by several thousand acres. The San Pablo Bay National Wildlife Refuge was added to protect and restore North Bay wetlands. The San Pablo Bay NWR now encompasses almost 10,000 acres, with plans to add several thousand additional acres. About \$10 million dollars in federal funds have been expended to acquire San Pablo Bay NWR lands and conduct management operations over the past fifteen years.
- Sonoma Land Trust has taken an active role in wetland restoration projects in the North Bay. The Trust has been involved in acquisition and protection of over 1,400 acres and restoration of tidal and seasonal wetlands on over 700 acres, including the 310 acre Sonoma baylands, the 45 acre Petaluma River Marsh and the 323 acre North Parcel/Leonard Ranch projects. Acquisition and restoration of wetlands continues to be a high priority for the Trust.

The Cost of Restoration

Although restoration of once-tidal areas is generally straightforward and successful, it can be expensive. Most of the restoration costs are associated with making the project compatible with surrounding land uses. Sometimes new levees must be built to protect inland areas from the tides or flooding. Because most diked lands have subsided—settled—it can take many years for sediment to arrive with daily tides and rebuild the land. If this time lapse is unacceptable, or if at a particular site the tidal inlet is too small to bring in the sediment, projects may choose to bring in material from dredging operations, which is very costly.

- The Sonoma County Agricultural Preservation and Open Space District has identified baylands as a high priority for protection after reviewing the county's open space needs in their Acquisition Plan 2000. The District is partnering with Sonoma Land Trust to pursue purchase of properties adjacent to the proposed casino site and assembling funding to purchase approximately 3,200 acres of the Roche property and the Tolay Creek and Lake area, north of the proposed development site.

Approximately 21,000 acres of diked baylands have been acquired and several thousand acres already have been restored in the North Bay. Immediately adjacent to the proposed casino site are the following wetlands restoration projects that either are complete or are in the process of being completed:

- Sonoma Baylands – 360 acres
- Leonard Ranch – 244 acres
- Tubbs Island – 72 acres
- Tolay Creek – 400 acres
- Lower Tubbs Island – 90 acres
- North Parcel Seasonal Wetlands – 330 acres (construction in 2003)
- Petaluma Marsh Expansion – 180 acres (construction in 2003)
- Bahia Wetlands - 570 acres

Nearby, at least six other parcels are being actively pursued for restoration. These and other restoration sites more distant from the proposed casino site have been restored, with the ultimate goal of connecting more than 40,000 acres.

Benefits of Wetlands Restoration

Some of the major benefits of restoration include:

- Rebuilding populations of species that live in Bay wetlands.
 - Rare or sensitive wildlife, including the California clapper rail, California black rail, San Pablo song sparrow, saltmarsh common yellowthroat, the salt marsh harvest mouse;
 - Waterfowl, including hunted species such as mallard, northern pintail, canvasback, indicator species such as surf scoter and ruddy duck, and the sensitive and protected tule greater white-fronted goose;
 - Several species of regionally rare plants, including northern salt marsh bird's-beak, popcorn flower, downingia, smooth goldfields, and a rare sac-clover, among many others.

- Rebuilding populations of salmon, steelhead, Dungeness crab, sturgeon, starry flounder, and other aquatic species that depend on the San Pablo Bay for some or all of their life cycle;
- Purifying the Bay and its tributary streams by capturing sediments and removing pollutants;
- Reducing flooding in low-lying areas like Petaluma, Novato, Sonoma and Napa;
- Reducing the need to dredge north Bay navigation channels;
- Providing enhanced, expansive scenic views, and additional educational and recreational opportunities related to the Bay

Restoration Vision for the Proposed Development Site

The North Bay offers unparalleled opportunities for wetlands restoration and the success of completed projects demonstrates the potential for additional achievements. Evidence of the historic tidal marsh is visible in the pattern of relict slough channels throughout the area. Restoration to tidal marsh is readily accomplished by reestablishing a hydrologic connection with the Bay. The success of the Carl's Marsh restoration project at the mouth of the Petaluma River is evidence that restoration of tidal wetlands on these historic marshes is easily achieved.

Many of the Goals Report's objectives for wetland habitat restoration apply to the Sears Point baylands. The diked baylands of Sears Point contain remnants of the region's former vernal pool flora that have taken refuge in the seasonal wetlands and moist grasslands in diked baylands; these areas are recommended for conservation.⁹ A major objective for the North Bay sub-region is to restore a continuous, wide band of tidal marsh to link habitat and populations of endangered species between the mouth of the Petaluma River to Tolay Creek.¹⁰ Along historic edges of uplands and tidelands (such as Sears Point), the restoration of natural transition zones, and buffers against human disturbances, were recommended. The Goals Project allows for flexible local planning to balance the distribution of these habitat objectives.¹¹ The restoration objectives for this area include retaining some agricultural land uses. Development in historic wetlands or adjacent uplands would preclude the realization of the Goals Project objectives for this sub-region.

ENVIRONMENTAL IMPACTS OF DEVELOPMENT

As a matter of California law, the responsibility for conducting a detailed evaluation of environmental impacts of any project typically rests with the project sponsor. The California Environmental Quality Act (CEQA) requires that a project sponsor prepare an Environmental Impact Report (EIR) that describes in great detail the impacts of a proposed project. The purpose of the EIR is to provide the public with detailed and comprehensive information so that an informed determination can be made regarding whether to allow the project to proceed. EIRs for a project of the magnitude of the casino commonly take months to years to prepare. Teams of technical consultants normally are retained to provide the public with detailed descriptions of existing conditions and of the expected impacts of the project on the immediate and surrounding area. However, Indian tribes that develop projects on “Trust Lands” (i.e.: lands belonging to tribes that are officially recognized by the federal government) are exempted from preparing an EIR.

No specific information has been provided to the public about the location, scale or design of the casino/resort. In addition, tribal representatives have offered conflicting information in public statements, declaring on one occasion that the development would be on the north side of Highway 37, and on another that it would be on the south side. The only constant element seems to be that there will be 2,000 slot machines at the casino. Without specific design information, it is difficult to predict particular impacts.

Nevertheless, due to the nature of the proposed building site and the scale of Indian casinos constructed elsewhere, certain impacts of the casino can be predicted with a fair degree of certainty. Impacts would result from the casino buildings themselves, and also from the many associated structures that have been mentioned by the tribe: housing, offices, a hotel, a cultural center, entertainment venues, a golf course, extensive landscaping, and thousands of parking spaces. Off-site impacts can be expected as well, largely associated with traffic and road widening. The emphasis of this report is on the impact to the North Bay wetland ecosystem, present and future. The first part of this section addresses that issue. Following, additional impacts are discussed briefly to indicate that there are numerous other probable adverse impacts.

Sensitive Species

San Francisco Estuary wetlands provide habitat for a great diversity of fish and wildlife species. Because of drastic reductions in Bay area wetlands and associated upland habitats, populations of many of the plants and animals that rely on these habitats have

declined and some are threatened with extinction. The proposed development would result in direct and indirect impacts to the following sensitive plant and animal species that are present on or adjacent to the site.

- Callippe silverspot butterfly (federally endangered) is located on western slopes of Cougar Mountain and a newly identified subspecies of the silverspot has been identified on the Mountain
- saline sac-clover, an extremely rare plant that is present in similar habitat on the east side of the Sonoma Marshes north of Tolay Creek
- popcorn flower, a regionally rare plant in tidal marsh ecosystems)
 - California red-legged frog
- California clapper rail
- California black rail
- Salt marsh common yellowthroat
- Samuel's song sparrow
- migratory shorebirds
- salt marsh harvest mouse (northern subspecies)
- Suisun shrew, confirmed near Sonoma Baylands
- harbor seal (Midshipman Point colony)
- Mason's lilaeopsis, occurs at Midshipman Point, mouth of Tolay Creek

Land use conflicts

The proposed project is located in the midst of an undeveloped area between the salt and brackish marshes, and seasonal wetlands, owned and managed by the U.S. Fish and Wildlife Service (San Pablo Bay National Wildlife Refuge), the State Coastal Conservancy, Sonoma Land Trust, and the California Department of Fish and Game. As discussed above, the proposed site, as well as the entire region, is zoned with an eye toward protecting its open space character, agricultural lands, and environmental resources. The resort casino is entirely inconsistent with the existing land uses and designations. The Sonoma County General Plan, the legal document that maps out a vision of the future for all lands within the County, has zoned these parcels as land extensive, i.e. low intensity, agriculture, largely because of their flooding risk.

Unlike historic agricultural land uses of Sears Point that leave soils and topography relatively intact or restorable, intensive development of a casino and its infrastructure (roads, utility pipelines, waste discharges, recontouring for building pads) would irreversibly and permanently alter the landscape, and generate habitat-degrading indirect impacts to surrounding wetland refuges in perpetuity.

Preemption of restoration of a contiguous wetlands complex between the Petaluma River and Sonoma Creek.

The ultimate goal of the Bay wetlands programs described above is to restore a large, contiguous complex of wetlands across the historic expanse of tidal marsh habitat areas around the mouths of major sloughs and rivers, such as Petaluma River and Tolay Creek. Connectivity of restored areas enables wildlife to move throughout the ecosystem to find favorable conditions, enhancing their survival. In addition, connection of wide tracts of tidal marsh enhances tidal flows and development of healthy tidal creeks within marshes, discouraging excessive sedimentation that can choke small creeks and degrade marsh habitat quality. Finally, connectivity promotes the establishment of a diversity of habitat types within the marsh, from mudflat to cordgrass marsh to pickleweed marsh to upland refugia. In turn, this habitat diversity allows populations of marsh wildlife to grow to sustainable levels.

Cumulative and Growth-Inducing Impacts

One of the most important environmental impacts to consider in regard to this type of development is the *cumulative*, or *growth-inducing* impact. Because of its scale, the casino would require improvements in infrastructure, such as road capacity, in order to prevent serious deterioration of traffic flow and public safety. Tribal representatives have estimated that an additional 6,000 – 12,000 vehicle trips would be generated per day. In addition, it would attract other businesses to capitalize on the customer traffic that it would generate. Restaurants, fast food concessions, motels and other such businesses would be attracted to take advantage of the pool of customers that are drawn initially to the casino. For example, the existing marina—Port Sonoma—at the mouth of the Petaluma River has been discussed as a potential water transportation center. Casino development would increase the pressure to develop a ferry terminal and related visitor-serving developments there. This site is extremely environmentally sensitive, with more than one endangered species nearby.

Although existing zoning normally would prohibit such developments, construction of the casino would create an abnormal situation in which major changes to current practice would be compelled. Expansion of Highway 37 and Lakeville Highway would likely proceed out of concern for public safety. Once roadways are expanded, there will be irresistible pressure to expand commercial opportunities in the region. Based on our experience, it would be a forgone conclusion that the zoning will be altered in response to these pressures.

Casino development would also have cumulative growth-inducing effects on lands in the Highway 37 corridor and Lakeville Highway areas. Because all approach roads to the development site would need to be expanded, growth-inducing impacts could reach areas far from the site itself, including the Sonoma and Napa Valleys, the Highway 101 corridor from San Rafael northward, and the Highway 37 corridor from I-80.

The opportunity to acquire and restore wetlands will be limited or lost as surrounding properties are purchased by developers or held for speculation. If fair market value is set by the sale of the proposed casino property, all future wetlands acquisition will be based upon that sale. Property will be far more expensive to acquire. This is already occurring in the vicinity of the proposed site. Surrounding landowners are being offered prices for their properties that, for various legal reasons, can not be met by public appraisals. Therefore, public funds may not be available to acquire properties from willing sellers and complete the wetlands complex that will achieve the goals adopted by so many public and private organizations.

Direct loss of wetlands and other habitats

A development of this size would permanently destroy hundreds of acres of wetlands, agricultural land, and open space. From site maps distributed by representatives of the Graton Rancheria, there appear to be approximately 200 to 300 acres of subsided, formerly tidal lands within the project area. The tribe has made conflicting statements regarding whether they propose to build on these sites or not. Should they elect to build, the project would destroy existing seasonal wetlands that form during winter and spring in the subsided depressions, as well as permanently pre-empt wetland restoration that is called for by existing plans. (See Setting.) If the development is placed on upland areas, direct wetland impacts would be reduced, but indirect impacts would be similar, and problems of erosion, runoff of pollutants, and visual impact would be increased. Besides the large footprint of the development's paved and landscaped area that would destroy valuable areas onsite, many additional acres of restorable wetlands would be lost in the necessary widening of all approach roads.

Pollution of existing wetlands and the Bay

Construction of impermeable surfaces, such as parking lots, roof structures, and widened approach roads, would result in runoff of contaminated stormwater to adjacent lowland properties, including wetlands and the Bay. Water running off these surfaces contains numerous pollutants that are known to harm fish and wildlife. Hydrocarbons in gasoline and motor oil, copper, mercury, and other heavy metals would be generated by motor vehicles parked onsite and by the greatly increased traffic

traveling on approach roads. Pesticides and herbicides would be generated from landscaped areas and a possible golf course. The tribe has stated they would treat wastewater onsite; presumably, the treated water would then be discharged to surrounding wetlands. Wastewater treatment facilities typically process only water from indoor plumbing. Outdoor runoff from landscaping uses and paved areas is rarely treated and contains harmful pollutants. In addition to chemical pollution, sediment would run off into wetlands and the bay during construction of development and widening of roads, particularly if development is located on the hills. All of these pollutants would increase contamination of wetland habitats supporting sensitive wildlife, including migratory waterfowl and shorebirds, seals, fish, and endangered wildlife.

Increased predation of sensitive wildlife

The proposed project would increase local populations of opportunistic predators such as Norway rats, raccoons, skunks, ravens, crows, red fox, and feral cats, which are attracted to additional food sources in commercial and residential developments. These predator population increases would adversely affect sensitive wildlife such as California clapper rails, salt marsh harvest mice, and ground-nesting birds.

Destruction of habitat connectivity

Depending on the development's final layout, it could preclude the restoration of a biologically functional connection between uplands and wetlands. Many animal species migrate between wetlands and uplands, so the transitional areas are critical. In addition, as climate changes or sea/groundwater levels changes over time, animals and plants need to gradually shift their locations.

Water Impacts

Deep wells for water supply could lead to ground subsidence which in turn could affect all surface and subsurface hydrology in the area. Groundwater pumping could also allow salt water to reach local water wells. Large paved and impermeable areas would compact the soil and alter the complex patterns of surface flows that sustain wetlands in the area. Such changes would prevent rainwater infiltration and route water off the site. These alterations would likely de-water and destroy some existing seasonal wetlands and hinder active wetland restoration projects, such as the work in the Sonoma Land Trust's North Parcel. In the long term, disrupting water flows would impede water supply for future wetland restoration in the area, and could lead to flooding of Highway 37.

Light Pollution

Casinos typically have huge light outputs, 24 hours a day. Most animal species depend on light and dark for some portion of their daily or seasonal life cycle. Increased night lighting associated with development disrupts important behaviors and physiological processes, with significant ecological consequences. Insects, amphibians, and birds are highly sensitive. Lights at night are especially disruptive to wetland birds and land animals, which use light reflected off of water to orient themselves. Migratory songbirds are also vulnerable, and are killed in large numbers when night-lit buildings attract them off their course. Some animals can not forage or find mates because they cannot hide from their predators. Owls, foxes, and other predators who hunt by sight may thrive where night lights are strong.

Traffic Impacts

Traffic increases would be a major environmental impact of the proposed development that needs further study. The tribe has stated that the proposed development will add thousands of vehicle trips per day to already congested roads approaching the site. The authors are not traffic experts. However, studies of existing casinos suggest that 1) even aggressive transit or shuttle programs do not reduce casino-related single-vehicle trips; 2) casino traffic normally peaks at the same times as existing traffic; and 3) casino-related traffic is significantly more accident-prone than normal traffic.¹² The great increase in traffic can be expected to cause increased road noise at all times of day and night, substantial increases in air and water pollution in what is now a rural, relatively unpolluted area, and substantially increased paved area, because of road widening on all approach roads and many acres of parking and roads onsite. The impacts of widening the roads approaching the site would be exacerbated because much of the surrounding area is wetland at or below sea level, or is restorable to wetland. Widening of State Highway 37 would result in a direct loss of wetland habitat that exists on adjacent properties.

Aesthetic/Visual Impact

The proposed development would place a large, powerfully lit, busy complex in what is now the darkest, quietest gateway to the rural North Bay. This area, between the Petaluma River and the Infineon Raceway, is where travelers from the urban metropolis breathe a sigh of relief.

Noise

Noise will emanate at all hours from crowded roadways, parking lots, entertainment venues, and the casino itself. Elevated noise levels degrade the human environment, and also cause serious biological problems. By disrupting the sound landscape that animals have evolved with, excessive noise levels can prevent animals from finding prey, hearing predators, finding mates, and congregating with each other.

Air Quality

Tons of additional toxic and/or greenhouse compounds can be expected to be released by casino-related vehicles. It is unclear whether the increased releases would exceed air quality standards established by the Bay Area Air Quality Management District. In Connecticut, a proposed casino was predicted to produce most of that region's allowable emissions of volatile organic carbon.¹³

SUMMARY

It is hard to conceive of a more unsuitable or ecologically damaging site on which to locate a development of this nature and scale. Perhaps imagining a similar project in the midst of the Point Reyes National Seashore would convey some understanding of the inappropriateness of this proposal. In 2003 it would be unthinkable to allow a casino at Point Reyes, in the East Bay Hills, or on the Peninsula Watershed lands; these areas have all been protected for their important regional natural resource and recreational values. The San Pablo baylands area shares those same values. The site is surrounded by National and State wildlife refuges, and is identified by numerous federal, state and local planning documents as a high priority protection area. If a private developer were to propose such a project, it undoubtedly would be promptly rejected by county decision-makers. In fact, no such development has been proposed in a similar location since the mid-1980s when a race track and theme park were proposed on diked wetlands on the Hayward shoreline. That developer ultimately filed for bankruptcy and the land now is owned by the California Department of Fish and Game, which is implementing a wetlands restoration project.

The Graton Rancheria resort casino is proposed in the heart of the largest remaining unprotected wetlands and open space area on the San Francisco Bay shoreline. It is proposed to be built on restorable wetlands, and its growth-inducing impacts would virtually guarantee that thousands of acres of additional wetlands restoration opportunities would be permanently lost. Its construction would impair

implementation of the Sonoma County General Plan, which recognizes the unique environmental resources existing in this region.

The environmental impacts of the project would range across three counties, as scores of miles of roadways would be expanded to accommodate the traffic generated by the casino. Owners of lands near the casino site already have rebuffed inquiries regarding sale for restoration, in anticipation of significant increases in property values should the resort casino be built.

The proposed resort casino not only is a threat to the ecological restoration of San Francisco Bay, but it also would frustrate implementation of the General Plans of several North Bay counties and communities, including Marin, Sonoma, Napa and Novato, Petaluma, and Vallejo.

MAPS

The following three maps are an important part of this document. If the version you are reading does not include the maps, please email sec-cornwall@vom.com or wendy@sonomalandtrust.org, or download the maps from www.sonomaecologycenter.org, www.bay.org, or www.sonomalandtrust.org. All maps are 11x17 inches, in color.

1. Comparison of historic and current habitat types and land uses in the area of interest. Source: San Francisco Estuary Institute EcoAtlas. Cartography: Sonoma Ecology Center.
2. Wetland Restoration & Enhancement Projects in the North San Francisco Bay Estuary. Source: Wetlands and Water Resources.
3. Sonoma Baylands Region. Shows individual property parcels in the area of interest. Source: Sonoma Land Trust.

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- ⁵ Point Reyes Bird Observatory Conservation Science. 2002 Letter to Water Transit Authority commenting on draft EIR for expansion of ferry service.
- ⁶ Goals Project. 1999. *Baylands Ecosystem Habitat Goals*. A report of habitat recommendations prepared by the San Francisco Bay Area Wetlands Ecosystem Goals Project. US Environmental Protection Agency, San Francisco, Calif./SF Bay Regional Water Quality Control Board, Oakland, Calif.
- ⁷ Goals Report, p. 97.
- ⁸ San Pablo Bay Watershed Restoration Study. 1999. U.S. Army Corps of Engineers and California State Coastal Conservancy.
- ⁹ Goals Report, pp. 111, A-18.
- ¹⁰ Goals Report, pp. 111.
- ¹¹ Goals Report, pp. 111, 194, A-16, A-18.
- ¹² Reports, presentations, and press statements authored or co-authored by Georges Jacquemart, of Buckhurst Fish & Jacquemart Inc., a consultant specializing in the traffic impacts of Indian casinos.
- ¹² Buckhurst Fish & Jacquemart Inc. July 2001. Bridgeport Casino traffic impacts on the south western region of Connecticut.
[http://www.swrpa.org/pdf files/CasinoFinalReport.pdf](http://www.swrpa.org/pdf_files/CasinoFinalReport.pdf).