

III. LAND USE ISSUES

The Land Use Issues chapter describes: A. Authorized development by Jurisdiction, B. Existing land uses, and C. Potential development under the NBHCP.

A. AUTHORIZED DEVELOPMENT BY JURISDICTION

The NBHCP establishes a multi-species conservation program to mitigate the expected loss of habitat and incidental take and/or loss of Covered Species that would result from planned urban development and other Covered Activities. Within each jurisdiction, certain levels of planned urban development are covered by this NBHCP. These levels are referred to as “Authorized Development” and are identified for each jurisdiction.

Based on a growth scenarios outlined by existing general plans for each Land Use Permittee, the total acreage potentially to be developed in the Natomas Basin is 13,533 to 20,033 acres, depending primarily on the extent of urbanization in Sutter County (see Table III-5). Although the adopted General Plans include a range of development, the NBHCP and related incidental take permits coverage, and the ITP issued to MAP, is limited to a maximum of 17,500 acres of urban development within the footprint for urban development shown on Figure 16 (“Planned Development”). The NBHCP provides coverage for Authorized Development for each of the NBHCP Land Use Agency Permittees intending to allow urban development within the Natomas Basin (City of Sacramento and Sutter County). Such Authorized Development is limited to 15,517 acres. This Authorized Development, combined with MAP’s 1,983 acres of development authorized under a separate HCP and ITPs, totals 17,500 acres and this combined acreage is referred to herein as Planned Development.

Any development in excess of that authorized by this HCP would not have take coverage under this HCP and such take coverage would require either an amendment to this HCP and permits or preparation of a separate HCP and approval of separate permits for that additional development, including an updated assessment of impacts and mitigation measures. The total acreage of Authorized Development in the Natomas Basin proposed to be covered under the City and Sutter County’s permits along with the acreage covered under the recently approved Metro Air Park incidental take permits is shown in Table III-1.

All lands within the NBHCP area that are not indicated as existing development on the Land Use Agencies’ “Baseline Maps” (for City of Sacramento’s Baseline Map and for Sutter County’s Baseline Map, see Exhibits B and C of the NBHCP Implementation Agreement) will be subject to full compliance with the NBHCP when or if they are developed. The one exception to this would be open areas left in an undisturbed state within areas otherwise developed, if the Natomas Basin Conservancy agrees to accept fee title to such lands or (see Section VI.D) a conservation easement over them.

**TABLE III-1
PLANNED DEVELOPMENT BY PERMITTEE**

Permittee	Planned Development Considered Within the NBHCP
City of Sacramento	8,050 acres
Sutter County	7,467 acres
Metro Air Park ¹	1,983 acres
Total	17,500 acres

¹ *The Metro Air Park (MAP) project located in Sacramento County will impact a total of 1,983 acres. While MAP is not a Permittee under this NBHCP, MAP has submitted a similar HCP and has obtained ITPs from the CDFG and the USFWS. Total development allocated to the City and Sutter County, combined with the anticipated 1,983 acres of MAP development, result in a total of 17,500 acres of development in the Basin.*

All lands within the NBHCP area that are not indicated as existing development on the Land Use Agencies' "Baseline Maps" (for City of Sacramento's Baseline Map and for Sutter County's Baseline Map, see Exhibits B and C of the NBHCP Implementation Agreement) will be subject to full compliance with the NBHCP when or if they are developed. The one exception to this would be open areas left in an undisturbed state within areas otherwise developed, if the Natomas Basin Conservancy agrees to accept fee title to such lands or (see Section VI.D) a conservation easement over them.

The Authorized Development allowed under the NBHCP for the City and Sutter County as specified in Table III-1 shall remain covered by the NBHCP for the City of Sacramento and Sutter County regardless of the rate of the development or modifications to land use designations of other jurisdiction(s). Jurisdictions which are not party to the NBHCP and propose urban development in the basin would be required to independently obtain incidental take coverage and achieve compliance with the state and federal Endangered Species Acts in a manner that does not undermine the species protection measures and conservation strategy of the NBHCP.

In particular, any increase in the total authorized level of Authorized Development covered by the NBHCP beyond 15,517 or an increase beyond the proposed 17,500 acres of Planned Development shall require an amendment to the NBHCP and shall be subject to additional biological or other analysis as deemed appropriate by the USFWS and the CDFG (see Section VI.C) and will require an amendment to the incidental take permits or issuance of new permits.)

The Sacramento International Airport is within the NBHCP Plan Area, but expansion of the airport is not covered by the NBHCP Incidental Take Permits. The airport will mitigate for future disturbance to airport lands through coordination between the Airport and Sacramento County, and obtain any necessary incidental take coverage from USFWS and CDFG. The specific areas of potential airport expansion are not currently specified.

Authorized Development may not be transferred among jurisdictions unless an analysis of the effects of such transfer on the effectiveness of the conservation strategy contained in the Plan's Operating Conservation Program demonstrates that the transfer would not compromise the effectiveness of the Operating Conservation Program. Such a transfer would also require the consent of all agencies or entities affected by the transfer, including affected Land Uses Agencies and the Wildlife Agencies and would require review in accordance with all applicable state and federal laws.

B. EXISTING LAND USE

Existing land uses in the HCP were developed based on the 1997 database for land uses as updated by field check and geographic information system mapping conducted by CH2MHill in 2001. The 2001 break-out of land use by type (acres) provided by CH2MHill is included in Table III-4. Agricultural cover types described herein reflect conditions as of 1997. Urban development acreage and drainage/waterway data have been updated to reflect 2001 conditions.

1. Agriculture

Agriculture is the primary land use in the Natomas Basin with approximately 42,800 acres in agricultural production in 1997. Land under Williamson Act contracts (entered into pursuant to the Land Conservation Act, California Government Code Section 51200, *et seq.* "The Williamson Act") in the Sacramento County portion of the Natomas Basin comprises 9,195 acres (Sacramento County General Plan Land Use Map). Sutter County began participating in the Williamson Act program in 2000, and as of February 2002 there were 2,076 acres of land within Sutter County's portion of the Natomas Basin under Williamson Act contract. Primary crops grown in the Natomas Basin include rice, safflower, wheat, barley, alfalfa, corn, pasture land, tomatoes, and fruit trees. Rice cultivation within the Natomas Basin as of 1997 is shown on Figure 15.

The relationship between agriculture in the Natomas Basin Plan Area to the integrity of the Natomas Basin giant garter snake population is unique as compared to the relationship between other land uses in the Natomas Basin to the population's viability. Agriculture within the Natomas Basin: (1) provides habitat that the giant garter snake can occupy; (2) provides waterways necessary to the giant garter snake's mobility throughout the Natomas Basin; (3) contributes to economies of scale for the use of resources such as water, thereby lowering the costs for operating the agricultural reserves; and (4) non-rice farming within the Natomas Basin increases the long term habitat opportunities for the giant garter snake by allowing rice farms to rotate to other crops when the cost of rice is down, rather than letting the farm go fallow, losing the water supply, and creating significant start-up costs to return the acreage to habitat.

Rice: About 95% of all California rice is grown in the Sacramento Valley (U.C. Agricultural Issues Center 1994); and rice lands in the Natomas Basin grow about 3% of the State total. Rice crops are grown in standing water for most of the season; heavy (impermeable) soils and a plentiful water supply are essential. Rice fields are first prepared by discing and leveling using heavy equipment. Fields are then flooded with water from the applicable irrigation source to a depth of 2 to 3 inches. Water requirements for rice farming in the

Sacramento region have been estimated at between 4.82 and 6.70 acre-feet of water per acre each year (WESCO 1991). This includes consumption through evapotranspiration and percolation and outflow to the Sacramento River or to recirculation systems. Herbicides are applied to the water to control growth of aquatic weeds and insecticides are applied to combat water weevil and shrimp. The herbicides and the insecticides are held in the water on the fields until the chemicals begin to degrade due to their exposure to sunlight. Following their degradation, and two to three weeks before harvest, the water is drained from the field. Ninety percent (90%) of the rice crops have a 145-day growing season from mid-April to mid-August.

The residual rice straw in the fields after harvesting is typically burned, plowed under, or flooded. Flooding to dispose of rice straw is becoming more prevalent as the practice of burning rice straw is being phased out due to air quality prohibitions. In addition to rotting the rice stubble, flooded rice fields provide wetland habitat for ducks, geese and other migratory waterfowl.

Agricultural water is provided by groundwater or is diverted from the Sacramento River by Natomas Mutual which supplies the Natomas Basin. The company is a private mutual water company that holds water rights for landowners. Natomas Mutual has several diversion canals on the Sacramento River which feed a network of smaller canals and ditches leading to the agricultural fields. This network includes ditches owned by the RD 1000.

The U.S. Department of Agriculture (USDA) has subsidy programs which are administered through the Farm Services Agency (FSA) at the county level. Farmers participate in the program by annually reporting their base crop acreage to the FSA. Participating farmers can receive a price deficiency payment when market prices fall below the target price established by Congress as the break even point. Table III-4 shows 1997 totals for agriculture in the Natomas Basin.

2. Waterways

The Natomas Basin is served by an extensive network of water delivery and drainage channels operated by Natomas Mutual and RD 1000. These channels, combined with the extensive rice fields within the Basin, are important habitat areas for the giant garter snake and other wetland associated species within the Basin. Since giant garter snakes live in the canals and ditches maintained by RD 1000 and Natomas Mutual, canal and ditch maintenance activities of the Water Agencies may result in take of the listed species. RD 1000 and Natomas Mutual are committed to reducing impacts of operation and maintenance practices on Covered Species and, to the extent practicable, to observing practices that are beneficial to these species, particularly the giant garter snake.

The acreage calculations and mile calculations for canals and drains in the Natomas Basin, as of the 2001 baseline, and by jurisdiction, are shown below in the following two tables. Table III-2 shows the number of miles of canals and drains by Class in 2001 for the City of Sacramento, Metro Air Park, Other Sacramento County, and Sutter County, with totals for each class and jurisdiction. Table III-3 shows the acres of canals and drains, by jurisdiction, for the same 2001 baseline. The canal types are separated into four classes; Class I, Class II, Class III,

and Class IV. Class I canals are the largest canals within the Basin and have been mapped upon aerial photos to determine the land area within these major canal. Class II through Class IV canals are lesser canals with assumed widths that range from 66 feet to 38 feet in width, respectively.

**TABLE III-2
CANALS AND DRAINS IN THE NATOMAS BASIN - 2001 (MILES)**

Canal Type	City of Sacramento	Metro Air Park	Other Sacramento County	Sutter County	TOTAL
<i>Class I</i>	13.9	0.0	14.9	7.1	35.9
<i>Class II</i>	4.0	4.0	18.0	24.5	50.5
<i>Class III</i>	15.1	3.5	50.5	28.5	97.6
<i>Class IV</i>	5.1	4.1	31.4	22.3	62.9
TOTAL	38.1	11.6	114.9	82.4	246.9

Source: CH2M Hill, September 2001.

**TABLE III-3
CANALS AND DRAINS IN THE NATOMAS BASIN - 2001 (ACRES)**

Canal Type	City of Sacramento	Metro Air Park	Other Sacramento County	Sutter County	TOTAL
<i>Class I</i>	129	0	308	66	503
<i>Class II^a</i>	32	32	144	196	404
<i>Class III^a</i>	90	21	301	170	582
<i>Class IV^a</i>	23	19	145	103	289
TOTAL	275	72	898	534	1,779

^a Class II, III, and IV canals and drains are linear features in the GIS database. Conversion to area features required using a standard width for each canal type, which was determined to be 65.9, 49.2, and 38.0 feet for Class II, III, and IV canals, respectively, based on information from Natomas Mutual. These standard widths include adjacent upland areas (e.g., maintenance roads) in addition to channel width.

Source: CH2M Hill, September 2001.

3. Road Network

The road network in the Natomas Basin occupies a substantial acreage of land. The Natomas Basin is traversed by 25 miles of State and Interstate highway corridors (I-80, I-5, and State Route 70/99). These roadways have several traffic lanes in each direction and the right-of-way widths vary with terrain and interchanges (Caltrans, District 4, pers. comm.). Smaller (2-

lane) surface streets serving agricultural areas in Sacramento County and Sutter County add to the linear mileage of the paved roadway network. In the Natomas area of the City of Sacramento, roads serving the Arco Arena and other urbanized areas have also been constructed. In 1993, Thomas Reid Associates estimated that 1,527 acres (3% of the land area in the Basin) had been paved either in freeway or local roads. Table III-4 shows acreage totals for highways in the Natomas Basin in 2001. Other roads are included in the “Urban” category of Table III-4.

4. Urban Development

Before the original HCP was adopted and the incidental take permits were issued to the City of Sacramento in December 1997, existing urban development in the Natomas Basin was concentrated in the southern portion of the Basin near Interstate 80. Most residential development existed within the South Natomas area of the City of Sacramento in the southeastern portion of the Basin, east of I-5 and south of I-80. Other residential areas included rural estates north of Del Paso Road and west of Natomas East Main Drainage Canal (now known as Steelhead Creek), a mobile home park on El Centro Road, and miscellaneous scattered single family residences. In addition to residential uses, other areas of development included the Natomas Sewage Treatment Pumping Station, Natomas Air Park (now closed), Sacramento International Airport (formerly known as Sacramento Metropolitan Airport), Arco Arena, Raley’s Distribution Center, and the Northgate Business Park industrial area. Overall, as of 2001, about 7,267 acres had been urbanized, (including highways, airport and other uses) in the Basin and therefore did not provide habitat for Covered Species or require mitigation. Table III-4 shows the land use acreage totals in the Natomas Basin in 2001.

Between 1998 and December 2001, about 3,787 acres of urbanization occurred in the Natomas Basin. About 2,250 acres of residential areas in North Natomas and the western portion of South Natomas were developed. The following non-residential projects were built in North Natomas: a 600,000 square foot retail center, known as Natomas Marketplace at Truxel Road and I-80; 108,000 square foot office building along Del Paso Road; 80,000 square foot office building at Arena Corporate Center along Arena Boulevard; and three office buildings at Gateway Park and Arena Boulevards, totaling about 100 acres. Also, the following non-residential projects were built in South Natomas: Sutter Health building, California Farm Bureau building, BTV Crown Corporate Center office buildings, and the alternative high school, totaling about 75 acres. Also, about 300 acres of infrastructure were developed between 1998 and 2000 in the Natomas Basin, including comprehensive drainage plan improvements, detention basins, streets, water mains and other miscellaneous improvements. During the 2001 construction season, 1,062 acres of land were converted to development under the City’s Settlement Agreement.

**TABLE III-4
LAND USES BY JURISDICTION - 2001 (ACRES)**

Land Use Class^a	City of Sacramento	Metro Air Park	Other Sacramento County	Sutter County	TOTAL
Airport	18	0	1,512	21	1,551
Alfalfa	0	0	137	234	371
Canals	129	0	308	66	503
Grassland	454	0	293	138	886
Highways	450	0	414	571	1,435
Idle	838	50	480	94	1,464
Non-rice Crops	4,905	325	8,591	2,866	16,686
Oak groves	15	2	70	11	98
Orchard	13	0	169	0	182
Other	148	0	305	15	468
Pasture	35	22	261	355	674
Ponds and seasonally wet areas	7	4	75	10	96
Rice	987	1,541	8,427	11,737	22,693
Riparian	24	0	93	6	124
Ruderal	1,429	6	261	274	1,970
Rural residential	49	10	170	148	377
Tree groves	36	23	39	8	106
Urban	3,298	0	229	327	3,854
TOTAL	12,836	1,983	21,836	16,881	53,537

Source: Habitat and Land Use Assessment Database, (CH2M Hill, 2001).

Note: Urban uses noted herein reflect 2001 conditions. Agricultural cover types reflect 1997 uses. Since 1997, all rice production within Metro Air Park has been discontinued.

Airport

Lands within the ownership boundary for the Sacramento International Airport, including all land use types (e.g., facilities, runways, open lands and farmlands adjacent to runways) within boundary. Does not include airport buffer lands (e.g., south of I-5). Also includes the former Natomas

	Air Park and several small rural airstrips (one in Sacramento County and two in Sutter County).
Alfalfa	Based on a subset of the DWR “Pasture” land use category that includes alfalfa production, as estimated for the 2001 baseline. Includes known alfalfa fields along Garden Highway in Sutter County.
Canals	The largest (Class I) canals and drains (including adjacent maintenance roads) in the Natomas Basin, primarily the ones already digitized for the DWR land use maps. Includes the East Drain, West Drain, Main Drain, North Drain, and the Central Main Canal. Does not include smaller canals and drains, which are recorded in the project database as linear features.
Grassland	Based on DWR “Native Vegetation” land use category with additional information provided by May & Associates field data and aerial photo interpretation, as estimated for the 2001 baseline. Includes known uncultivated grasslands, primarily along the eastern border of the Natomas Basin.
Highways	Includes Interstates 5 and 80, S.R. 99/70, and interchanges, including all areas within medians.
Idle	Based on DWR “Idle” land use category - agricultural lands temporarily out of production.
Non-Rice Crops	Based on the DWR land use categories of “Grain and Hay Crops,” “Field Crops,” and “Tilled Lands.” In the Natomas Basin, this category includes primarily wheat, corn, safflower, and tomatoes.
Oak Groves	Includes several isolated pockets of mature oak trees east of Garden Highway.
Orchard	Based on the DWR land use categories of “Deciduous Fruits/Nuts” and “Citrus and Subtropical.” In the Natomas Basin, this includes primarily pear, peach, and walnut orchards adjacent to Garden Highway.
Other	Miscellaneous land uses not captured by other land use categories. Includes Teal Bend Golf Course, the wastewater plant at Sacramento International Airport, and several utility substations.
Pasture	Based on DWR “Pasture” land use category, including primarily irrigated pasture in the Natomas Basin.
Ponds/Wet Areas	Wetland/marsh areas including Pritchard’s Lake and several isolated locations throughout the Natomas Basin. Based on DWR’s “Water Surface” land use category and some “Riparian Vegetation” categories,

	with additional information provided by May & Associates data and aerial photo interpretation.
Rice	Based on DWR’s “Rice” land use category.
Riparian	Based on DWR’s primary “Riparian” category, with additional information provided by May & Associates data. Includes cottonwood/willow areas along primary canals and drains, including the Fisherman’s Lake area.
Ruderal	Includes former agricultural lands that are no longer in production, primarily due to proximity to urbanized areas (e.g., surrounding Arco Arena). Includes DWR’s “Barren” and “Vacant” land use categories. Ruderal lands typically consist of non-native grasses, and most are occasionally tilled for fire control.
Rural Residential	Includes farmhouses and farm equipment yards. Includes DWR’s “Semi-Agricultural” land use category, with additional information provided by aerial photo interpretation.
Tree Groves	Includes non-riparian stands of trees other than mature oaks. Based on DWR’s “Native Vegetation” land use category, with additional information by May & Associates data and aerial photo interpretation.
Urban	Urbanized areas. Primarily in the City of Sacramento, but also including unincorporated areas along El Centro Road in Sacramento County and Pacific Avenue in Sutter County.

5. Sacramento International Airport

Sacramento International Airport (SIA) currently uses 2,800 acres for runways, terminals, hangars and extensive north-south flyover buffers (see Figure 2, Natomas Basin and Affected Jurisdictions). The airport owns additional land as shown in the breakdown below. The airport property is generally bounded by the County line to the north and the Sacramento River to the south, and extends roughly 1.5 miles west from Powerline Road. The Airport is owned and operated by the County of Sacramento.

Land under the control of the Sacramento County Department of Airports includes the airport facilities and surrounding buffer lands acquired to minimize conflicts between airport operations and encroaching urban development (see Figure 17). These areas have been mapped by CH2M Hill and the actual airport facilities (land inside the airport fenceline) is estimated to include 1,505 acres. Additionally, the Department of Airports has acquired approximately 4,050 acres of surrounding buffer lands. Thus, the total area under the direct control of the County Department of Airports is 5,565 acres. The Department is also currently seeking to acquire an additional 438 acres of buffer lands.

In March 1996, the Sacramento County Department of Airports adopted a Wildlife Hazard Management Plan (WHMP) as required by the Federal Aviation Administration (FAA) under 14 CFR 139.337 (Hall 1996). The WHMP assesses the extent of wildlife hazards at SIA and directs the Airport to manage wildlife hazards to reduce risk to public safety and risk of property damage. The WHMP plan is based on an Ecological Study completed in July 1993.

The main wildlife hazard is bird strikes--i.e., collisions between aircraft and birds. Modern aircraft engines and windshields are designed to resist damage from bird strikes and strikes seldom result in accidents. However, bird strikes do cause significant repair expense. The greatest threat to aircraft is large bird species, which individually can cause significant damage, and flocking birds, which can result in multiple strikes.

The most prominent wildlife hazards for airports are birds that occur on or near airport grounds and that fly across an aircraft's flight path during landing or takeoff. Most airports experience 70%-90% of all strikes in this area under 500 ft AGL (above ground level). At SIA, about 50% of the strikes occur under 500 ft AGL. SIA is located in the Pacific Flyway and is in the Sacramento Valley, a major waterfowl wintering area. Wintering waterfowl contribute to a greater than average frequency of birds struck above 500 ft AGL because waterfowl tend to fly high to and from feeding and roosting/loafing areas. Waterfowl account for 50% of the strikes at SIA where the species could be determined and the majority of strikes at SIA, 46%, occur in winter during the months of December, January, and February. SIA experiences a higher than average bird strike/air operations ratio than most airports at about 1 in 4,000 landings or takeoffs. FAA encourages keeping strikes below 1 in 10,000.

The WHMP addresses a range of on-site management actions to be undertaken by the airport to reduce attractiveness of the airport lands to birds and to disperse birds that occur. Birds are attracted by open water, including ponded rainwater, and food from crops or recently tilled lands. Birds are dispersed by "hazing" (frightening birds with loud noises or recorded distress calls). One component of the WHMP calls for reducing open water in drainage ditches, which could reduce GGS habitat. Another component calls for elimination of hawk roost trees near the runway and could marginally affect Swainson's hawk habitat.

In general, the FAA identifies the area within two miles of the runway centerline as the critical zone for managing wildlife hazards. For the Natomas Basin, the 2-mile zone extends east nearly to U.S. 99. The WHMP directs airports to avoid placing bird attractant uses in the critical zone, including solid waste disposal sites and wildlife refuges. FAA regulations govern placement of refuse dumps near airports.

In May, 1997, the FAA published an Advisory Circular concerning wildlife attractants near airports (FAA 1997). This Advisory Circular recommends the following distances between an airport's aircraft movement areas, loading ramps, or aircraft parking areas and the wildlife attractant: (1) 5,000 feet for airports serving piston-powered aircraft; and (2) 10,000 feet for airports serving turbine-powered aircraft. In addition, the Circular recommends that a distance of five statute miles be maintained between a wildlife attractant and the airport's approach or

departure airspace if the attractant may cause hazardous wildlife movement into or across the approach or departure airspace.

Rice farming has been a historic, ubiquitous use of the agricultural lands surrounding SIA and is typically considered impractical and unnecessary to regulate by the Department of Airports (Glen Sanders, Sacramento County Department of Airports, and Thomas Hall, USDA, Animal Damage Control, pers. comm). Rice farming near the runways is not considered to be a significant source of wildlife hazards in the Natomas Basin, with the exception of grain spillage left in the fields following harvest, which attracts birds. During the summer growing season, migratory waterfowl are absent and fields attract a relatively small number of other birds, such as egrets and herons, that are considered a potential threat to aircraft. Once harvested, however, grain spillage creates an obvious attraction to waterfowl, especially in rain flooded fields. The practice of winter flooding in lieu of burning to remove the rice straw may broaden the range of birds attracted to the rice fields and pose a more significant threat to aircraft (Thomas Hall, pers. comm). In addition, the use of managed marsh as wetlands as described in Chapter IV of the NBHCP (see Sections IV.C.3.d and VI.) is unlikely to pose bird strike hazards to SIA due to both their being sited within prescribed safe distances indicated and by the fact that they are not designed to attract migratory waterfowl, the type of bird the SIA evidences is of most concern. These factors must be taken into account when selecting and managing reserve lands under the NBHCP.

Sacramento International Airport (Buffer Lands)

Surrounding Sacramento International Airport, there are airport buffer lands which are maintained in agricultural uses. These lands are considered beneficial to the Covered Species within the Basin in that they provide a large contiguous block of predominantly upland habitat. Development of these buffer lands to industrial or other commercial uses will be considered a significant change in the NBHCP and would require that the County either participate in a revision to the HCP, or apply for an individual take permit that mitigates for project impacts. Although the Permittees are not relying on the Airport buffer lands as mitigation for effects within the Natomas Basin, retaining these lands in agricultural uses will contribute to the overall success of NBHCP conservation strategies for the Covered Species.

C. POTENTIAL DEVELOPMENT

Three separate local governments have jurisdiction over the NBHCP Area. Within the Basin, 16,581 acres lie in Sutter County and 36,656 acres lie in Sacramento County. Within Sacramento County, 12,836 acres of the Basin lie within the city limits of the City of Sacramento. The City portion of the Basin consists of the North Natomas Community Plan Area, and the South Natomas Community Plan Area. Each of the land use planning agencies in the Natomas Basin (City of Sacramento, Sacramento County, and Sutter County) have land use plans governing anticipated future development within the NBHCP area. The status of land use planning within each jurisdiction is discussed below.

1. Foreseeable Urban Development and Status Under the NBHCP

Local governments guide land use through their general plans. While the general plans of the City, Sutter, and Sacramento County are subject to amendment over the 50-year term of the NBHCP and permits, they offer a reasonable basis for predicting the extent and location of future development. The following discussion of land use planning is not a limitation of the NBHCP or its associated permits; the permits will apply to all Authorized Development in the Natomas Basin. For purposes of the permits, the NBHCP makes no distinction between areas with approved land use plans and areas with current agricultural zoning, and nothing in the NBHCP affects the land use status of any parcel. The underlying development activities must be authorized by the local agency before incidental take authorization under the City or Sutter County's incidental take permits will be extended to that project. Land use entitlements will continue to remain under the authority of the respective local jurisdictions. Figure 2 shows the footprint of the area in which Authorized Development would be covered by the incidental take permits. Impacts to habitat and species and the related mitigation program are based on an analysis of the effects of land use development within the areas shown.

Table III-5 shows the currently approved or reasonably foreseeable maximum growth scenario for the Natomas Basin. As discussed below, a range is shown for Sutter County. The purpose of these data is to provide an estimate of potential urban development and resulting take and to provide a basis to assess funding requirements. Existing plans prepared by the City, Sutter, and Sacramento County are discussed solely for the purpose of identifying likely levels of development and its potential impacts.

**TABLE III-5
POTENTIAL URBAN DEVELOPMENT**

AREA/PROJECT	LAND PLAN USES (acres)
Sutter County	3,500 to 10,000 ^a
Sacramento Airport	Unspecified
Metro Air Park (Sacramento Co.)	1,983
North Natomas Community Plan (City of Sacramento)	7,150 ^b
South Natomas (City of Sacramento)	900 ^b
TOTAL	13,533 - 20,033

a. *Maximum development scenario derived in the 1995 Sutter County general plan which designates 10,000 acres within the Natomas Basin as Industrial/Commercial Reserve and allows development of 3,500 acres by year 2015.*

b. *The total number of acres projected for development in the NNCP area is 7,150 acres, including 6,510 acres within the City limits (as of 12/31/00) and 640 acres within the County area anticipated to be annexed into the City during 2002 (excluding existing development shown in the Baseline Map - Exhibit A in the Implementation Agreement). The total number of acres projected for development in the SNCP area is 900 acres, including the approximately 50 acre property annexed into the City (Costa, Giannoni, Parr). As of 12/31/00, Urban Development Permits have*

been issued on 2,676 + acres in both the NNCP and SNCP areas. The entire 8,050 City of Sacramento acres (North Natomas and South Natomas) are located within the City's Permit Area.

a. Sacramento County

The Sacramento County General Plan was updated in December 1993. There are two urban policy areas affecting County lands within the Natomas Basin, the Sacramento International Airport/Vicinity Special Planning Area (Metro Air Park) and the North Natomas Community Plan Area (the majority of which is in the City of Sacramento). The Sacramento County General Plan Land Use Diagram (Sacramento County General Plan Update 1993) incorporates the land use designations specified within both these special planning areas. The majority of Sacramento County land within the Basin and outside of these policy areas is designated for retention as Agricultural Cropland by the Sacramento County General Plan. At this time, it is not anticipated that these agricultural lands will be converted to urban land uses.

There is currently a proposal before Sacramento County to expand the Urban Services Boundary to include approximately 6,500 acres. This proposal would affect land within Sacramento County's northeast portion of the Natomas Basin. This proposal has not been analyzed within or covered by the NBHCP and the effects on endangered species and mitigation for the development of this land would not be provided through the NBHCP. Thus incidental take authorization for such potential development would not be based on the NBHCP. Any further urban development would require new biological analysis and regulatory review and associated permits.

Sacramento County currently is not seeking coverage under the HCP. Other than MAP, whose landowners association has obtained a separate incidental take permit, Sacramento County currently has no approved development plans.

Metro Air Park

The Metro Air Park Special Planning Area lies east of the airport property and encompasses 1,892 acres. In August 1993, Sacramento County amended its zoning ordinance to allow airport related uses, light manufacturing, high tech research and development, professional office space, limited support retail, and recreation. Essentially all of the area is foreseen for urbanization. Also, 119 acres of off-site improvements are anticipated for the Metro Air Park project - 28 acres are in the City of Sacramento and 91 acres are in the unincorporated portion of Sacramento County (therefore 1,983 acres of development are assigned to Metro Air Park in Tables III-1 and III-5).

b. City of Sacramento

North Natomas Community Plan Area

The North Natomas Community Plan was adopted in 1986 by the City of Sacramento and was amended in 1994. North Natomas is designated by the City's General Plan to be the City's major growth area for housing and employment. The Arco Arena, a major event center for sports and concerts, is located here. The planned community encompasses 9,038 acres (7,438 acres

within Sacramento city limits and 1,600 acres currently of unincorporated Sacramento County land). A 640 acre portion of the unincorporated county area is currently under consideration for annexation into the City of Sacramento and is included in the City's Authorized Development shown in Table III-1.

The North Natomas Community Plan sets forth a vision, guiding policies and implementing policies for each plan element: Land Use, Circulation, Community Services and Facilities, and Implementation Programs. The North Natomas Community Plan sets forth a new urban form for North Natomas that includes (1) a Town Center and Regional Park as the "heart of the community"; (2) sustainable neighborhoods each with an elementary school as its focal point with a variety of housing types, parks and open space, commercial services, and transit service close to employment; (3) employment centers designed to be mixed-use centers with primarily employment generators (office, industrial) but may include residential and retail uses also; and (4) land use is designed to encourage the use of alternative modes of travel, specifically transit, bicycling, and walking. The recent inventory of planned land uses in the NBHCP are as follows:

Major Employers	2,378 acres
Residential	3,599 acres
Public/Civic Uses	269 acres
Parks	494 acres
Agricultural and Freeway Buffers	255 acres
Drainage and Detention Facilities	420 acres
Other Open Space	354 acres
Agriculture	125 acres
<u>Roads/Light Rail right-of-way</u>	<u>1,144 acres</u>
Total	9,038 acres

Of this total, the following existing projects within the City were exempt from compliance with the NBHCP because they comprise development existing before the 1997 NBHCP: 185 acres Arco Arena Sports Complex; 75 acres Coral Business Center (including Coke and Raley's); 25 acre County Sanitation property; 10 acres Natomas School along Del Paso Road; 25 acres Stadium Estates mobile home park; and miscellaneous existing road and utility facilities totaling 964 acres. Also, approximately 924 acres within the unincorporated portion of the County (south of Del Paso Road) were existing development and will not be subject to compliance with the NBHCP. Based on the 964 acres of existing development in the City and 924 acres of existing development in the County, 7,150 remaining acres of the total 9,038 acres in the North Natomas Community Plan will be subject to compliance with the NBHCP (about 6,510 acres in the City and 640 acres in the County- north of Del Paso Road).

Between the inception of the 1997 NBHCP in December 1997 and December 2001, private and public development has paid mitigation fees on 3,821 acres of the 8,050 acres in the City's Permit Area, with fees totaling \$13.9 million.

South Natomas Community Plan Area

The South Natomas Community Plan Area was adopted by the City of Sacramento in 1988. The Community Plan Area totals 3,464 acres and is largely urbanized with residential, office, light industrial, and other development. As of December 1997, 900 acres of South Natomas remain undeveloped and subject to future compliance with the HCP. Since the inception of the 1997 NBHCP, private and public uses have paid the mitigation fee and been issued Urban Development Permits on 276 acres. (The South Natomas Community Plan area includes the Natomas West area, west of the Main Drain, formerly known as Willow Creek or known as West Natomas.)

Annexation Requests and Potential Expansion of Sphere of Influence

As mentioned above, the annexation area known as the panhandle has always been included in the North Natomas Community Plan and is included in the Authorized Development area of the City; however, the City's incidental take permits would not apply to the panhandle area until and unless the area is annexed to the City. The City has also received development applications or preliminary expressions of interest for two properties adjacent to the current city limits within the Natomas Basin: 1) West Lakeside, and 2) Greenbriar Farms.

West Lakeside: This proposed annexation area is located at the northwest corner of Del Paso Road and the current city limits, next to the developing Westlake neighborhood. The property is 135 acres in size and an environmental document has been started.

Greenbriar Farms: This proposed annexation area is between the developing North Natomas neighborhoods and the Metro Air Park. The area is 573 gross acres in size.

On June 27, 2000, the Sacramento City Council embarked on a study to consider expansion of the City's sphere of influence. The sphere of influence is currently co-terminus with the city limits in the Natomas Basin. If eventually requested by the City and approved by the Local Agency Formation Commission (LAFCo), the City's sphere of influence could be expanded. However, no coverage for this expanded area is provided under the NBHCP.

c. Sutter County

The adopted Sutter County General Plan (1995) designates County areas within the Natomas Basin as Agriculture and Industrial/Commercial Reserve. The Sutter County General Plan designated 10,500 acres in South Sutter County as Industrial/Commercial Reserve, with approximately 10,000 of these acres located in the Natomas Basin. The 1995 General Plan allowed the development of 3,500 acres of this land within the Industrial/Commercial Reserve for the 20 year planning horizon of the General Plan. Under the current Sutter County General Plan, the balance of the Industrial/ Commercial Reserve has the potential to develop over the 50 year term of the NBHCP.

Sutter County has recently approved the South Sutter County Specific Plan (SSCSP), which allows an initial 3,500 acres of development within the County's Industrial/Commercial

Reserve. The boundaries of the Specific Plan Area are depicted on Figure 2 - Natomas Basin and Affected Jurisdictions. For purposes of this NBHCP, the Specific Plan Area is considered to be very likely to develop, while the remaining land within the Industrial/Commercial Reserve is considered to have the potential to develop over the term of the NBHCP.

The total area of the Industrial/Commercial Reserve within the Natomas Basin includes approximately 10,000 acres. A portion of this total area falls within one mile of the Sacramento River and is, therefore, within the Swainson's Hawk Zone. Sutter County has excluded land within the Swainson's Hawk Zone from its Permit Area and will seek no coverage for development in the Zone under the NBHCP or the associated ITP's. Land within the Industrial/Commercial Reserve that is more than one mile from the river, and therefore outside the Swainson's Hawk Zone, totals approximately 8,573 acres. Following adoption of the NBHCP and issuance of ITP's, the County will initiate a General Plan Amendment to remove the land within the Swainson's Hawk Zone from the Industrial/Commercial Reserve and designate such land for agricultural uses.

Because the effectiveness of the NBHCP's Operating Conservation Program to adequately minimize and mitigate the effects of take of the Covered Species depends in part on the exclusion of future urban development from the Sutter County portion of the Swainson's Hawk Zone, approval by Sutter County of future urban development within the Swainson's Hawk Zone would constitute a significant departure from the Plan's OCP and would trigger a new effects analysis, potential amendments and/or revisions to the Plan and Permits, a separate conservation strategy and issuance of Incidental Take Permits to the permittee for that additional urban development, and/or possible suspension or revocation of Sutter's Permits.

While the SSCSP identifies 3,500 acres of land for near term development, the remaining areas to be developed within the Industrial/Commercial Reserve have not been specified. Within the total 17,500 acres of development to be considered within the NBHCP, 7,467 has been allocated to Sutter County. Therefore, approximately 1,106 acres of the 8,573 acre Industrial/Commercial Reserve located outside the Swainson's Hawk Zone cannot be developed under the take authorization sought under the NBHCP and the associated ITP's.

Prior to 1997, a total of 146 acres of urban development and 291 acres of roads and highways existed in Sutter County. This pre-existing development is exempt from mitigation requirements under NBHCP. From 1997 through 2001, a single project was constructed within Sutter County, the SYSCO warehouse facility that occupies approximately 50 acres in the vicinity of Pacific Avenue and Sankey Road. The SYSCO project is located within the proposed South Sutter County Specific Plan and this project is counted among the total acres of Authorized Development that is allocated to Sutter County under the NBHCP. Mitigation measures have been adopted by Sutter County, which include purchase of 25 acres of habitat mitigation land consistent with NBHCP guidelines. The purchase of the 25 acres will be in accordance with all provisions identified in the NBHCP. It is anticipated the purchase may be combined with other TNBC purchases.

2. Conversion of Agricultural Lands

In 2001, approximately 46,230 acres in the Natomas Basin were either in agriculture or other undeveloped uses. As the adopted general plans described above are implemented, agricultural lands will be converted to urban uses. This conversion process is expected to occur over many years. In the Sutter County portion of the Basin, large areas of agriculture will likely persist, after completion of NBHCP Authorized Development. Under the current Sacramento County General Plan (1993), agriculture in unincorporated Sacramento County outside the two urban policy areas designated by the County (Metro Air Park and North Natomas Community Plan Area) will continue to exist.

Development in the early years of the NBHCP will result in some loss of currently-farmed rice land. As of 1997, the North Natomas Community Plan Area had 987 acres in rice. At the time of the 2001 baseline land use inventory for this HCP, the Metro Air Park had some 1,541 acres in rice. Outside the North Natomas Community Plan Area, the current distribution of rice in the Basin is roughly 42%. Because the Natomas Basin is partially urbanized, individual property owners of farm lands make decisions regarding types of crops, and in the case of rice, whether to fallow or drain fields fairly frequently. Thus, the acreage of agriculture by crop type, is often changing. The best available baseline of agricultural land uses by crop type as determined by CH2MHill and field checked by May and Associates (2001) is used as the baseline for this HCP and related analysis.

It is significant to note that total acres of cultivation and types of crops grown can vary significantly from year to year based on various factors, including market conditions and soil capability. Additionally, there has been a trend of property owners in urbanizing areas to fallow rice fields in expectation of urban development. This NBHCP presents a conservation plan based upon the recent agricultural production as generally described above and specifically noted within Table II-1.